NAVI SINGH DHILLON (SBN 279537)
navidhillon@paulhastings.com
PETER C. MEIER (SBN 179019)
petermeier@paulhastings.com
CHRISTOPHER J. CARR (SBN 184076)
chriscarr@paulhastings.com
LUCAS GRUNBAUM (SBN 314180)
lucasgrunbaum@paulhastings.com
PAUL HASTINGS LLP
101 California Street, 48th Floor
San Francisco, California 94111
Telephone: (415) 856-7000
Fax: (415) 856-7100

HARIKLIA KARIS (*admitted pro hac vice*)
hkaris@kirkland.com
ROBERT B. ELLIS (*admitted pro hac vice*)
rellis@kirkland.com
MARK J. NOMELLINI (*admitted pro hac vice*)
mnomellini@kirkland.com
KIRKLAND & ELLIS LLP
300 North LaSalle
Chicago, IL 60654
Telephone: (312) 862-2000
Fax: (312) 862-2200

Attorneys for Defendant
PACIFIC BELL TELEPHONE COMPANY

UNITED STATES DISTRICT COURT

EASTERN DISTRICT OF CALIFORNIA

CALIFORNIA SPORTFISHING PROTECTION ALLIANCE,

Plaintiff,

v.

PACIFIC BELL TELEPHONE COMPANY,

Defendant.

Case No. 2:21-cv-00073-MCE-JDP

**DECLARATION OF NAVI SINGH DHILLON IN SUPPORT OF DEFENDANT'S STATUS CONFERENCE STATEMENT**

Judge: Hon. Jeremy D. Peterson
Courtroom: 9
Date: August 24, 2023
Time: 10:00 a.m. via ZOOM

I, Navi Singh Dhillon, declare as follows:

1. I am a Partner at Paul Hastings LLP and lead counsel for Defendant Pacific Bell Telephone Company (Defendant). I make this declaration in support of Defendant's status report filed on August 17, 2023. Unless otherwise indicated, I have personal knowledge of the matters set forth below and, if called as a witness, I could and would testify competently thereto.

2. Attached as **Exhibit A** is a true copy of Ramboll US Consulting, Inc.'s "Lake Tahoe Water Lead Study," dated August 3, 2023.

3. Attached as **Exhibit B** is a true copy of the transcript of relevant portions of the July 18, 2023, Lead Contamination Conference Call wherein Plaintiff's counsel, William Verick, spoke.

4. Attached as **Exhibit C** is a true copy of the New York State Department of Health's "Sampling Report for Lead in Soil at Temple Park Playground and Adjacent Areas Dutchess Terrace and Market Street in Wappingers Falls, New York," dated July 27, 2023.

5. Attached as **Exhibit D** is a true copy of New York Governor Kathy Hochul's August 1, 2023, press release, entitled "Governor Hochul Announces Temple Park Will Reopen After Comprehensive Soil Testing Reveals Park Is Safe For Public Use."

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct.

Executed August 17, 2023 in San Francisco, California.

By: /s/ Navi Singh Dhillon
NAVI SINGH DHILLON

# EXHIBIT A

Prepared for
**AT&T**

Prepared by
**Ramboll US Consulting, Inc.**
**Los Angeles, California**

Project Number
**1690031058**

Date
**August 3, 2023**

# LAKE TAHOE WATER LEAD STUDY

## LAKE TAHOE, CALIFORNIA

RAMBOLL

# CONTENTS



# TABLES



# FIGURES



# APPENDICES

# 1. INTRODUCTION

Ramboll is a global consulting firm with specialized expertise in environmental matters. We were retained on behalf of AT&T to collect water samples from Lake Tahoe and to evaluate water quality in the vicinity of two lead-clad telecommunication cables in the lake. This study was performed by scientists with expertise in the design and execution of water quality studies.[1]

In these cables, a copper wire core is surrounded by a quarter-inch thick lead sheath to protect the copper from environmental elements. The lead sheath is in turn covered by a further protective steel layer.

In a prior study conducted in 2021, the environmental consulting firm Haley & Aldrich evaluated whether any lead being released from the cables was impacting the water quality of the lake. Haley & Aldrich concluded in a report dated October 2021 that the cables are not adversely impacting the lake's water quality in the vicinity of the cables or elsewhere, and that any detected lead was consistent with background levels of lead in the lake.

Our investigation in June 2023 determined that at all locations sampled the concentrations of lead were similar to background levels. The highest concentration levels of lead detected at close proximity to the cables was more than 200 times below the Environmental Protection Agency's drinking water action level for lead (15 micrograms per liter [µg/L] or 15 parts per billion [ppb]) and almost 40 times below the chronic ambient water quality criterion for aquatic life of 2.5 µg/L or 2.5 ppb. Accordingly, the water quality of Lake Tahoe is not being adversely impacted by the cables. That conclusion is consistent with the findings of Haley & Aldrich in 2021.

[1] CVs of the study team are appended to this report.

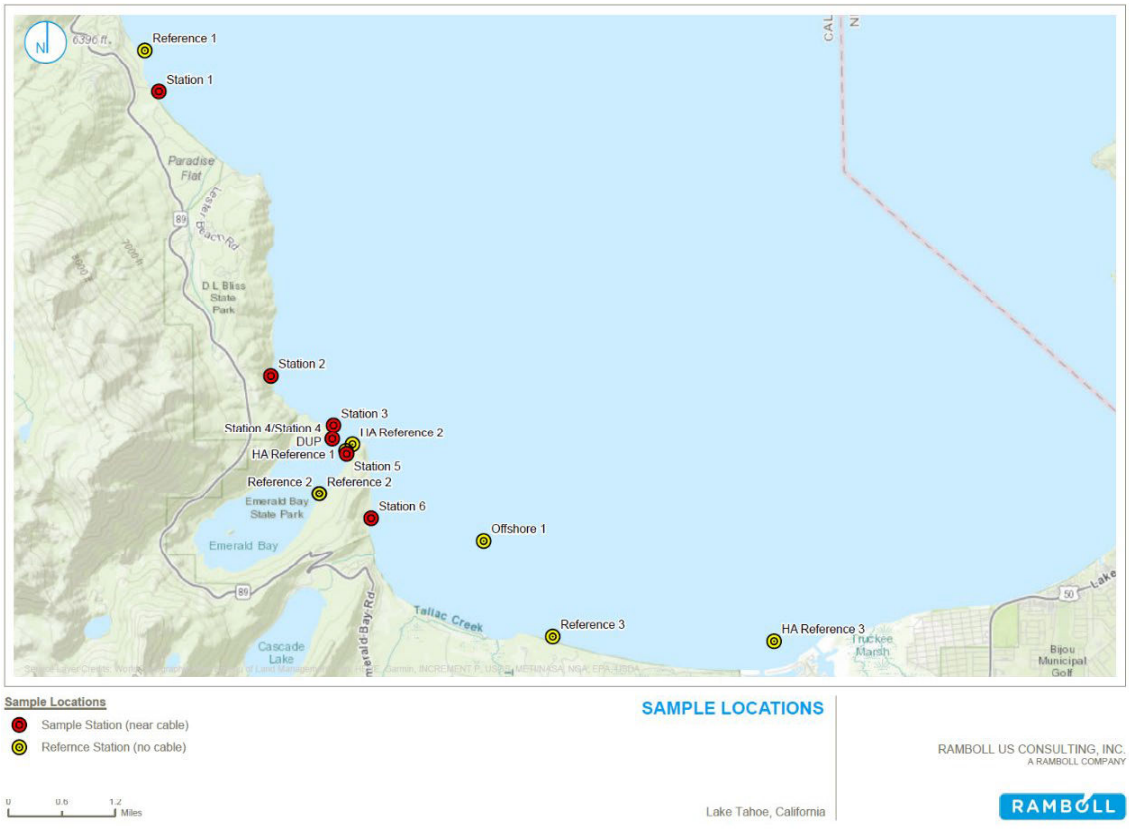
# 2. METHODS

Ramboll located the two telecommunication cables in Lake Tahoe that were evaluated by Haley & Aldrich in 2021. One cable (Cable A) stretches across the mouth of Emerald Bay. The second cable (Cable B) runs generally from north to south near the western shore of the lake. Sampling points were chosen to collect data near both cables as well as a series of reference sites.

## 2.1 Water Collection and Sample Locations

The Ramboll team arrived in South Lake Tahoe on June 19, 2023. Sampling commenced on June 20, 2023. A total of six (6) stations near the cables were sampled. Two (2) stations were adjacent to Cable A and four (4) stations were adjacent to Cable B (Figure 1-1). In addition, samples were collected at six (6) reference stations (Figure 2-1). Within the twelve (12) total sampling locations, the team returned to the exact locations published in the Haley & Aldrich study (2021) in an effort to collect samples at the same sites for temporal analysis. Locations were found using a navigational Global Positioning System (GPS).

**Figure 2-1: Sample Locations**




## 2.2 Water Collection Methods

Sample bottles were shipped from ALS Environmental (ALS), located in Kelso, Washington. The kits contained sample bottles with waterproof labels, chains-of-custody, custody seals, and associated paperwork. Two types of sample bottles were used: (1) 250 milliliter (mL) high-density polyethylene (HDPE) bottles for total lead analysis which contained a few

milliliters (mL) of nitric acid ($HNO_3$) and (2) 250 mL HDPE bottles for dissolved lead analysis with no preservative. Wet ice was collected the morning of deployment to ensure proper temperature storage. All ice was double bagged using ZipLock bags to avoid direct contact between the ice and any sample bottles. All sample bottles were maintained in the dark in ice chests during the sampling event.

Once the team arrived at a particular sampling station, the boat was positioned for sampling, making sure that turbulence from the boat did not impact water conditions near the cables. A water depth measurement was taken prior to sampling. Sample bottles were labeled and checked for quality assurance. The instrument used for water sampling was a Kemmerer sampler for trace metals. The Kemmerer is designed with an automatic lock which keeps the sampler open as it descends into the water column. The seal is closed by dropping a weighted messenger. The sampler was placed, and water collected, within 6 inches of the cable and immediately distributed to sampling bottles. The GPS coordinates were recorded, and the samples were placed on ice. Following sample collection, underwater footage was recorded with a GoPro to capture footage of the water quality, conditions, and integrity of the cable. Three unique viewpoint photographs were also captured from the boat to record distance from shore, conditions, and imagery of the sampling location.

Prior to collection, and after each sample was collected, the sampling equipment was decontaminated. This consisted of a series of steps: (1) wash sampling equipment with laboratory quality soap (e.g., Alconox); (2) rinse sampling equipment with site water; (3) rinse sampling equipment with 20% nitric acid; and (4) rinse sampling equipment with distilled water. Following decontamination, the sampler was placed in a clean plastic bag to avoid exposure. Once decontamination was complete the field team moved to the next sampling location.

Two water samples were collected at each location: one for total lead analysis, and one for dissolved lead analysis. Samples for dissolved lead were not filtered in the field. The unfiltered samples were stored on ice to control for temperature and sent to ALS where they were filtered by the laboratory, preserved, and later analyzed.

Total lead samples were collected from the sampler into a bottle containing a small amount (e.g., 5 ml) of $HNO_3$. For quality control two field blanks were collected, a duplicate for 10% of the stations. One field duplicate was collected for each day of sampling. Field duplicates are taken to determine potential variability in the sampling procedure. Additionally, the team also collected rinse blanks. Following the decontamination process, the Kemmerer sampler was filled with the distilled water and dispensed into sampling bottles. One rinse blank was collected for each day of sampling. The rinse blanks determine the quality of the decontamination process as well as source water (i.e., distilled or deionized water).

## 2.3 Water Collection Summary

Water samples were collected at thirteen (13) locations. This included the six (6) stations near Cables A and B, the six (6) reference locations, and a single offshore location. Two (2) field duplicates were also collected. The samples, field duplicates, and two (2) rinse blanks were submitted to the laboratory.

Of the six (6) reference locations, three were based on sample location coordinates from the Haley & Aldrich study (2021).

Results for each sampling location are presented below in Section 3.

## 2.4 Sample Handling and Shipping

The team finalized sampling on June 21, 2023. As noted, samples were stored on ice. They shipped the next morning (June 22, 2023) to ALS via priority overnight transit for analysis.

## 2.5 Lead Analysis

ALS received the water samples on June 23, 2023. The samples were received intact, under proper chain-of-custody, and at 3.0 degrees Celsius (°C). ALS filtered and preserved the samples designated for dissolved lead analysis. Total and dissolved lead samples were digested according to USEPA Method 3005A and then analyzed for lead using USEPA Method 6020B. Laboratory duplicates (i.e., samples that are split and analyzed twice by ALS) were also tested to verify precision in the analysis. This procedure verifies that the laboratory did not introduce variability or contamination. ALS thereafter reported the results of the lab testing.

# 3. RESULTS

Laboratory results are shown in Table 1-1. Total and dissolved lead concentrations from Stations 1, 2, 3, 5, and 6 were reported either below the method reporting limit (MRL) of 0.02 µg/L or below the method detection limit (MDL) of 0.006 µg/L for both total and dissolved lead. Station 4 was the only sample location near a cable that had a detectable concentration of lead. Dissolved lead concentration for Station 4 was 0.049 µg/L and the total lead concentration was 0.044 µg/L.[2] The duplicate sample had a dissolved lead concentration of 0.027 µg/L and a total lead concentration 0.064 µg/L. A sample of lake water collected farther offshore (Offshore 1-01-062123-NC) had no detectable lead at the laboratory MDL for either total or dissolved lead.

**Table 1-1: Results for Water Sampling**

| Sample ID | Dissolved Lead (µg/L) | Total Lead (µg/L) |
|---|---|---|
| Station 1-01-062023-C | Not detected | 0.009 J |
| Station 2-01-062023-C | Not detected | 0.010 J |
| Station 3-01-062023-C | Not detected | 0.009 J |
| Station 4-01-062123-C | **0.049** | **0.044** |
| Station 4-DUP-062123-C* | **0.027** | **0.064** |
| Station 5-01-062123-C | 0.012 J | 0.012 J |
| Station 6-01-062123-C | Not detected | Not detected |
| Offshore 1-01-062123-NC | Not detected | Not detected |
| Reference 1-01-062023-NC | Not detected | Not detected |
| Reference 2-01-062023-NC | Not detected | 0.018 J |
| Reference 2-DUP-062023-NC* | Not detected | 0.016 J |
| Reference 3-01-062023-NC | Not detected | Not detected |
| HA Reference 1-01-062123-NC | Not detected | 0.011 J |
| HA Reference 2-01-062123-NC | 0.007 J | 0.010 J |
| HA Reference 3-01-062123-NC | Not detected | Not detected |

Notes:
µg/L – micrograms per liter
J – reported as an estimated value
* – indicates field duplicate.
Bold – indicates measured value
"Not detected" means the analyte was not detected at or above the MDL of 0.006 µg/L.
Lead was generally not detected in reference locations with the exception of Reference 2 where the lead concentration was reported as an estimated value (i.e., "J" flagged) between the MRL and the MDL. As J-flagged data are estimates, they indicate that lead was present, but the actual concentration is estimated as it is below the laboratory reporting limit.

[2] While the total lead concentration for this sample is nominally lower than the dissolved concentration, the reported concentrations are effectively the same given the expected analytical variability at such low concentrations.

Laboratory quality assurance/quality control (QA/QC) duplicates were consistent with sample results indicating that the laboratory had good precision in their analysis.

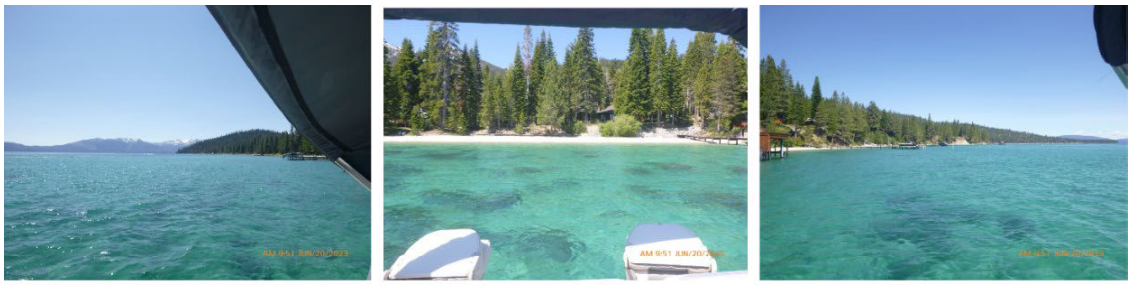
Lead was detected in rinse blanks.[3] Rinse blanks are designed to test whether ambient conditions and sampling procedures alone can contribute to sample contamination. Rinse blanks contained distilled water only, after decontaminating the equipment. The distilled water was purchased from a commercial source (Walmart) and was assumed to be free of contamination. Considering the distilled water was used as part of the decontamination process, it is possible that the results from our water samples could be interpreted as biased high. However, the field and laboratory duplicates indicate that, despite the fact that the distilled rinse water may have contained lead, any residual lead was likely removed (i.e., washed away) during the sampling process as the open sampler descended through the water column, and thus did not contribute to lead concentrations in the field samples. This is evidenced by the many sample results that were below the laboratory MDL indicating no residual lead concentrations from the decontamination process.

Specific details about each station are summarized below.

## 3.1 Station 1

Station 1 was characterized as shallow and nearshore, with clear water and sandy bottom. The depth was approximately 8 feet (') 9 inches (") . This station was located at the northern most end of Cable B. In order to better capture visual representation of the sampling location, three images from different viewpoints were taken (Figure 3-1). Each viewpoint is taken to record a distinguishing feature at the site as well as to point in varying directions. Results for this station are presented graphically (Figure 3-2). Dissolved lead was not detected at this station and total lead was under the MRL for the sample and laboratory duplicate.

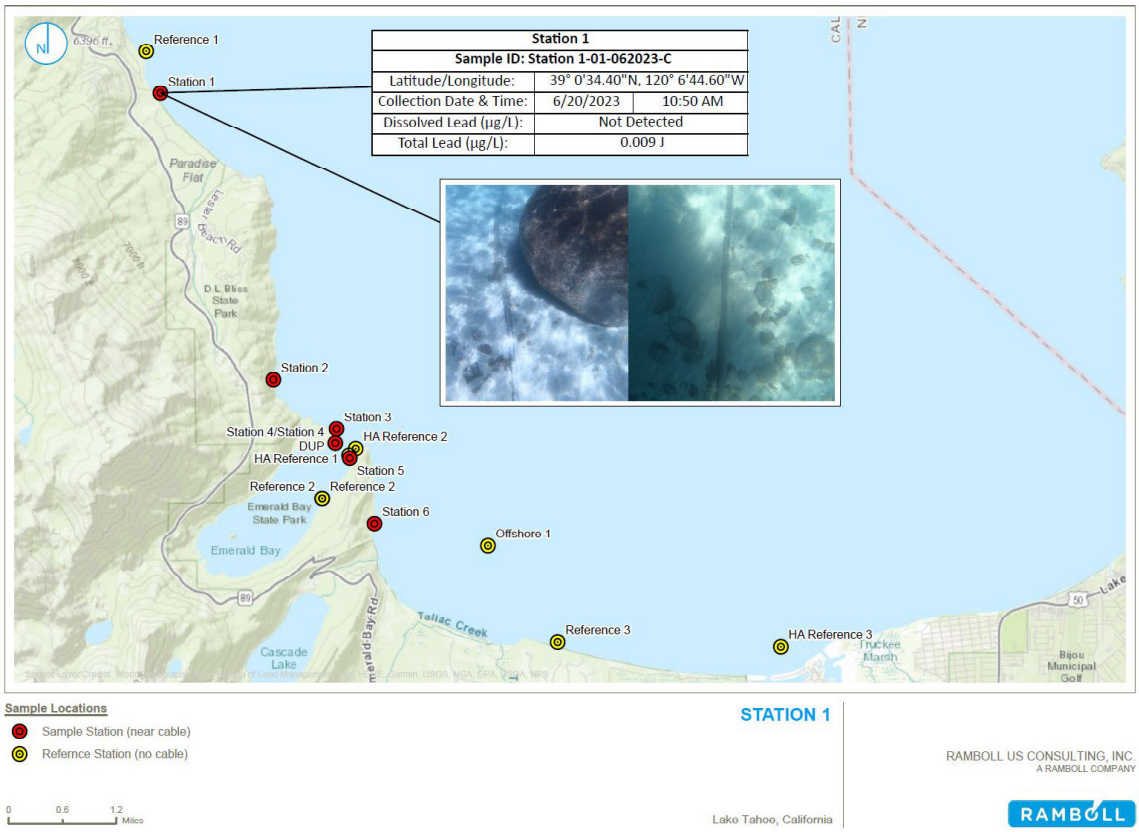
**Figure 3-1: Station 1 Viewpoints**



Station 1 - Viewpoint 1 | Station 1 - Viewpoint 2 | Station 1 - Viewpoint 3

[3] One rinse blank sample had lead concentrations of 0.309 µg/L and 0.310 µg/L in dissolved and total lead samples, respectively, and the second rinse blank sample had lead concentrations of 0.0.025 µg/L and 0.030 µg/L in dissolved and total lead samples, respectively.

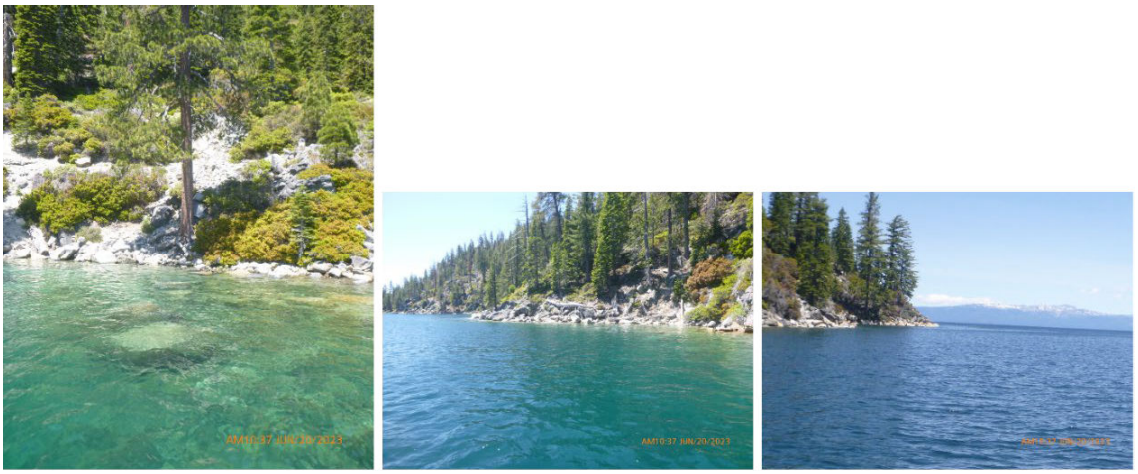
**Figure 3-2: Station 1 Location and Results**




## 3.2 Station 2

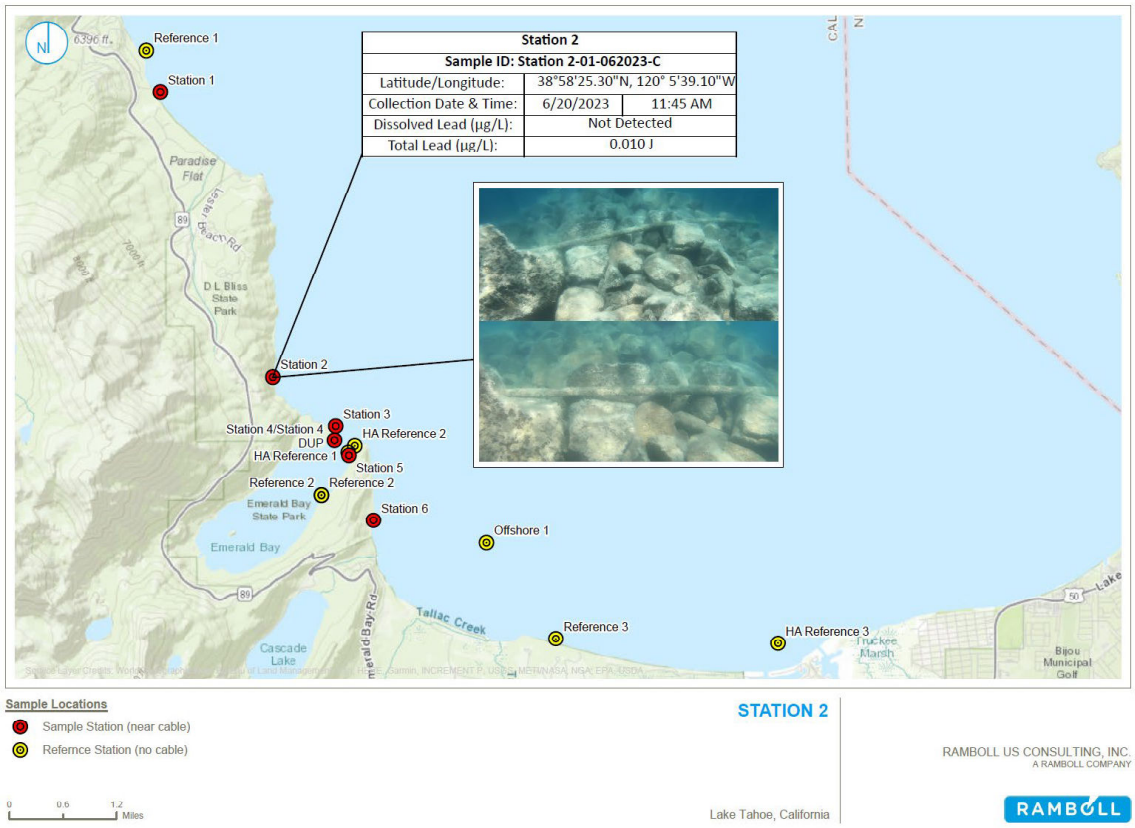
Station 2 was characterized by steep rocky cliffs, shallow water, and large boulders. The rocky substrate and large cobble went directly to the shoreline until about 6 meters offshore where there was a large drop off. The depth where the cable was present measured approximately 9’8”. Results for this station are presented graphically (Figure 3-4). Dissolved lead was not detected at this station and total lead was under the MRL for the sample and laboratory duplicate.

**Figure 3-3: Station 2 Viewpoints**



Station 2 - Viewpoint 1 | Station 2 - Viewpoint 2 | Station 2 - Viewpoint 3

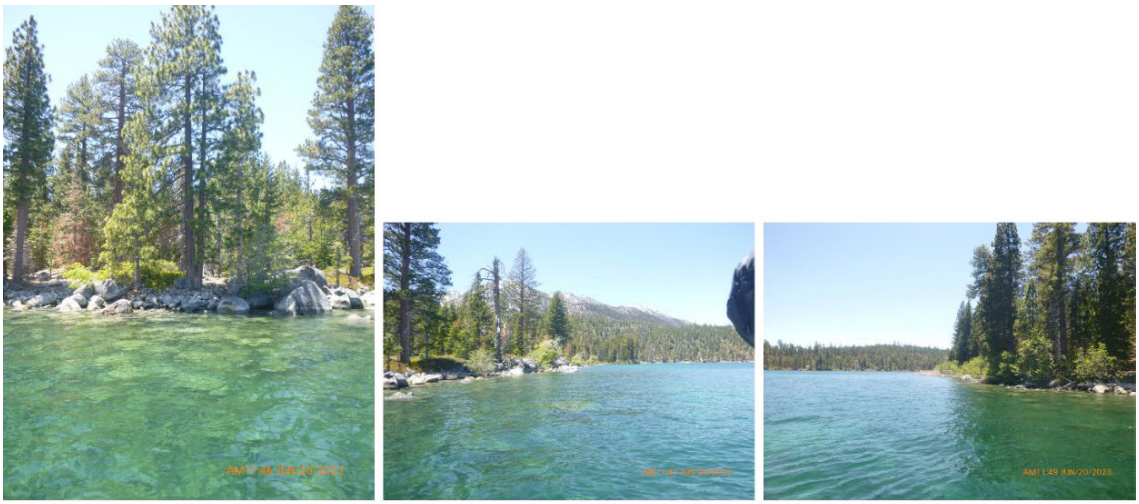
**Figure 3-4: Station 2 Location and Results**



## 3.3 Station 3

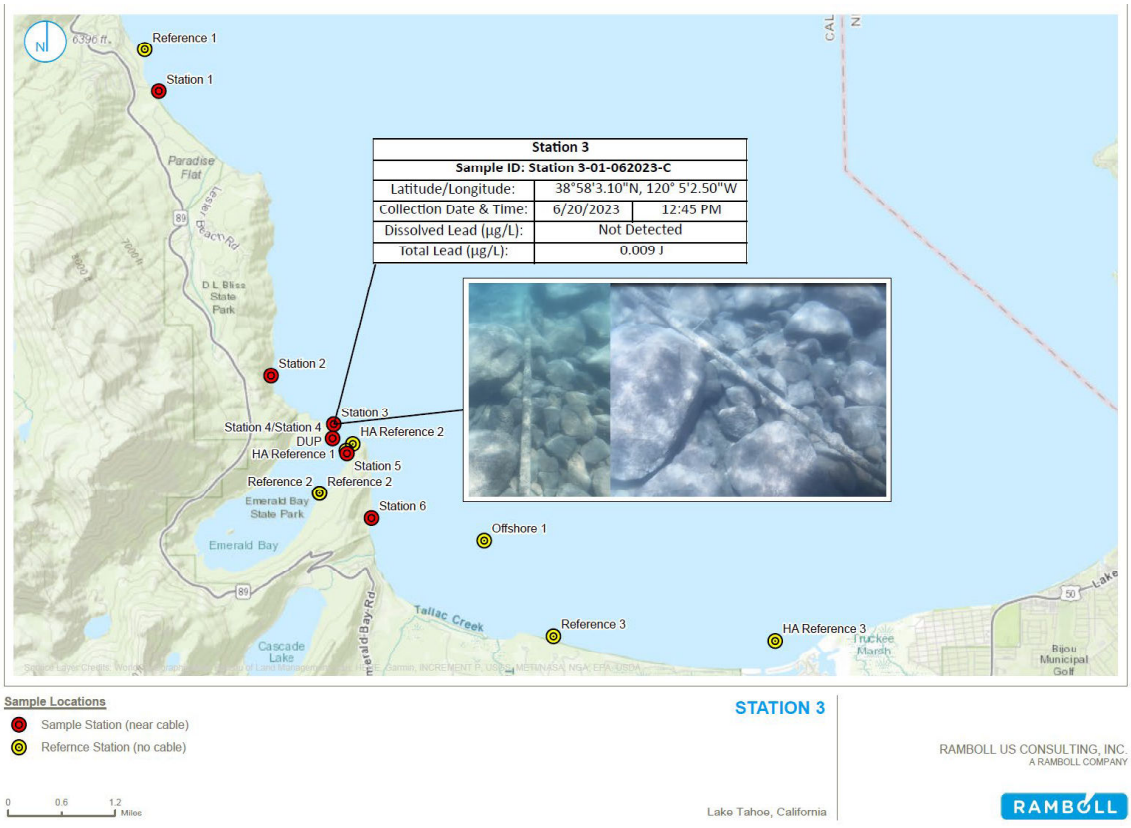
Station 3 was characterized as shallow with primarily rock and cobble substrate. Water clarity was ideal, and the cable was visible from the boat. The water depth was 11’10”. Results for this station are presented graphically (Figure 3-6). Dissolved lead was not detected at this station and total lead was under the MRL.

**Figure 3-5: Station 3 Viewpoints**



Station 3 - Viewpoint 1 | Station 3 - Viewpoint 2 | Station 3 - Viewpoint 3

**Figure 3-6: Station 3 Location and Results**



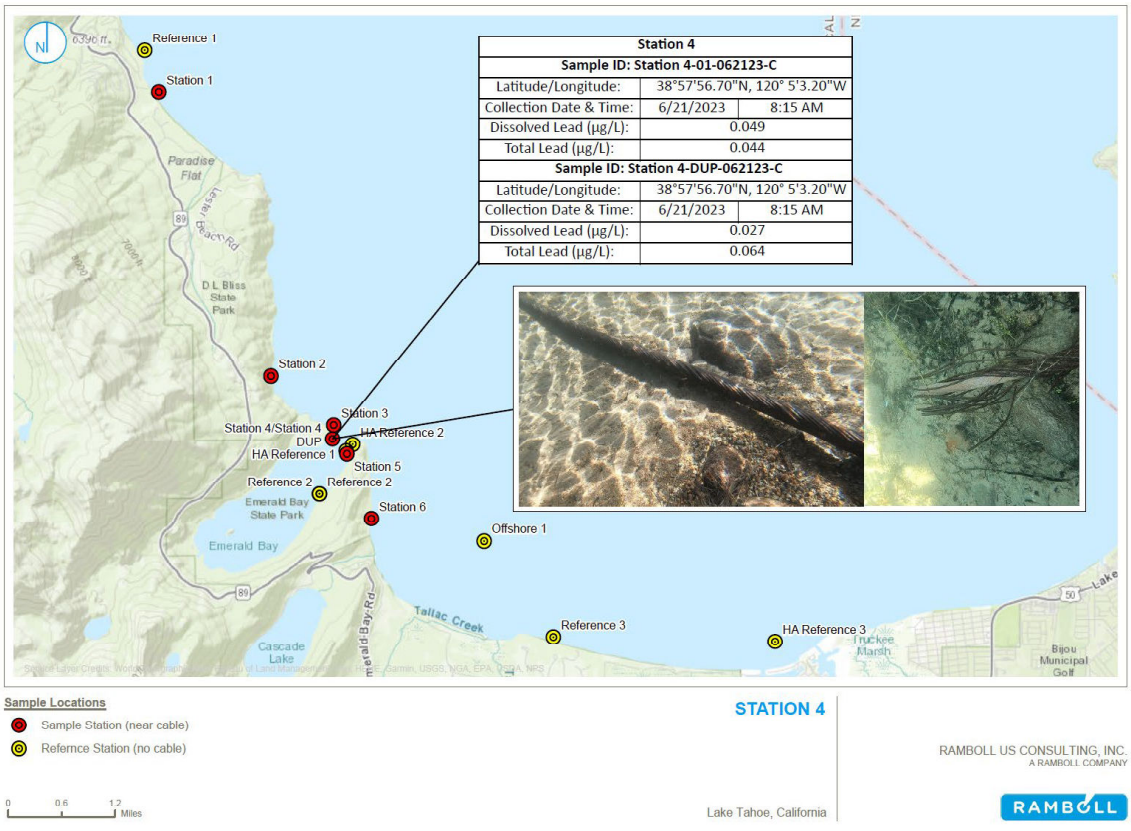
## 3.4 Station 4

Station 4 was characterized as shallow and close to shore. Substrate was sandy with large cobble and boulders. Water depth was 2’9”. Results for this station are presented graphically (Figure 3-8). The concentration of dissolved lead for this station was 0.049 µg/L and the total lead concentration was 0.044 µg/L. Field duplicate samples were collected at this station and tested. The concentration of dissolved lead for the duplicate sample was 0.027 µg/L and total lead concentration was 0.064 µg/L.

**Figure 3-7: Station 4 Viewpoints**

Station 4 - Viewpoint 1 | Station 4 - Viewpoint 2 | Station 4 - Viewpoint 3

**Figure 3-8: Station 4 Location and Results**



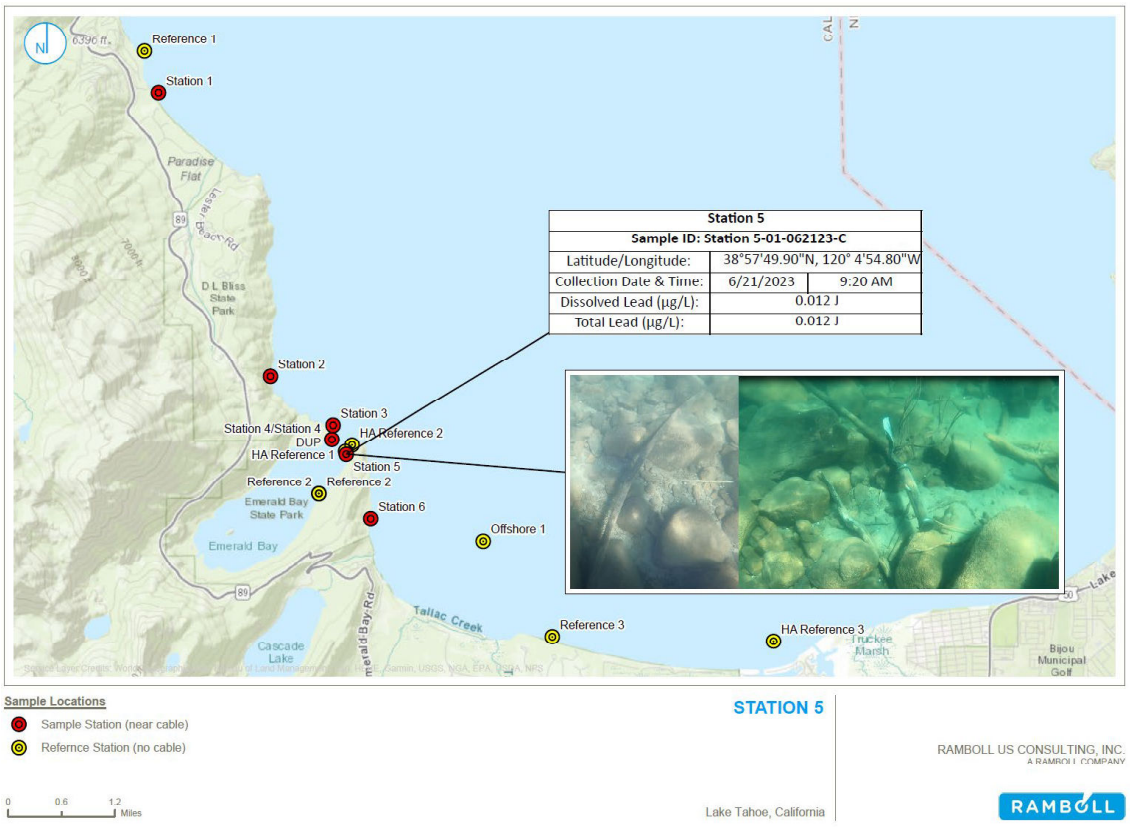
## 3.5 Station 5

Station 5 was characterized as sandy substrate with large cobble and boulders. Visibility was poor, and it was very difficult to see the cable, even when conditions were calm. More algae were present in the water column at this location. The depth at this station was 10'. Results for this station are presented graphically (Figure 3-10). Dissolved and total lead were under the MRL.

**Figure 3-9: Station 5 Viewpoints**

Station 5 - Viewpoint 1 | Station 5 - Viewpoint 2 | Station 5 - Viewpoint 3

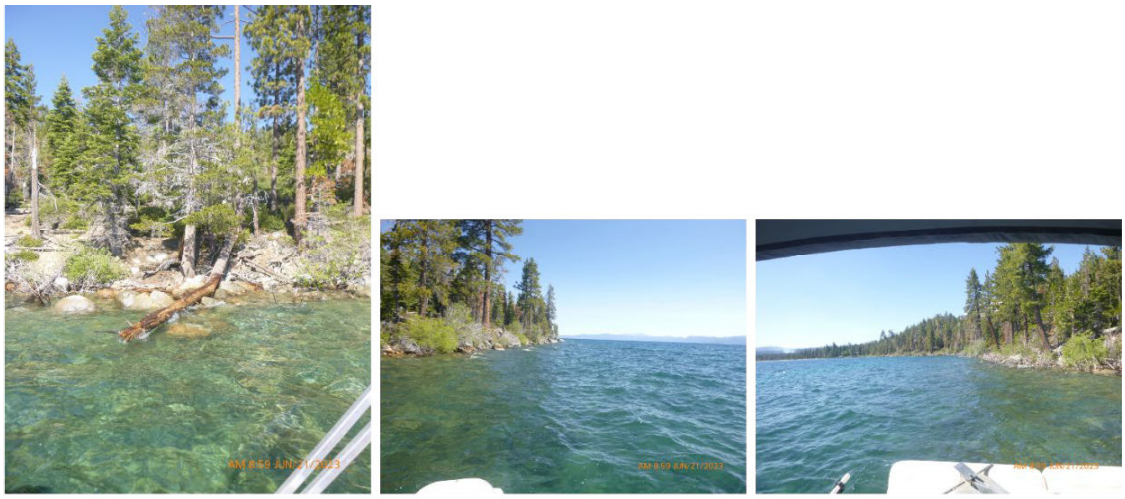
**Figure 3-10: Station 5 Location and Results**



## 3.6 Station 6

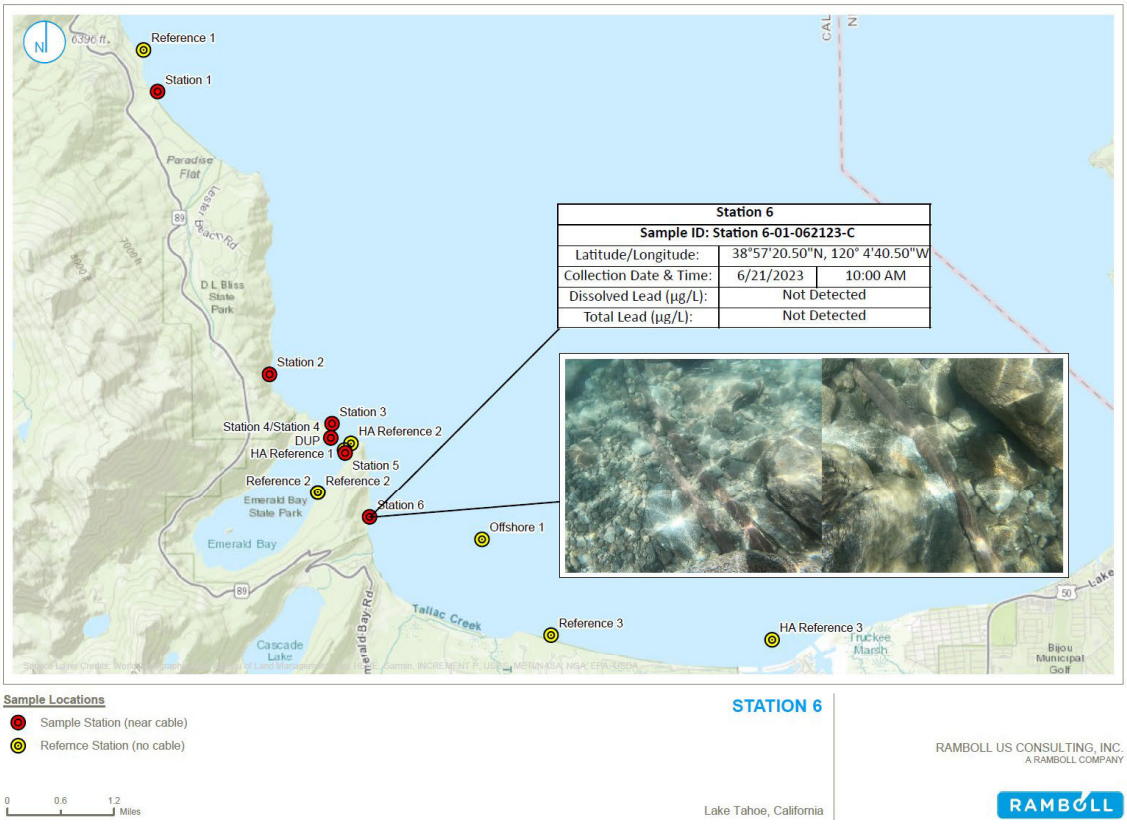
Station 6 was characterized as sandy substrate with large cobble. The cable was located approximately 4.5 meters from the shoreline. The water was clear and depth was 4’11”. Results are presented graphically (Figure 3-10). Total lead and dissolved lead were not detected for Station 6.

**Figure 3-11: Station 6 Viewpoints**



Station 6 - Viewpoint 1 | Station 6 - Viewpoint 2 | Station 6 - Viewpoint 3

**Figure 3-12: Station 6 Location and Results**



## 3.7 Data Validation

After receiving the laboratory results, Ramboll performed data validation. Ramboll's data validation is based on guidance from the National Functional Guidelines for Inorganic Superfund Method Data Review (USEPA, 2020), the analytical method, laboratory specific QA/QC criteria, and professional judgment. The QC information checked by Ramboll included chain-of-custody forms, holding times, reporting limits, blanks, laboratory control samples, matrix spike/matrix spike duplicate (MS/MSD) samples, field duplicates, laboratory duplicates, initial calibrations, internal standards, continuing calibration verification standards, serial dilution, and analyte identification and quantitation. Based on Ramboll's evaluation, the analytical data that were qualified (i.e., J-flagged) are valid and no data were rejected. The following observations and data qualifiers were applied as a result of the validation.

Results were reported based on the laboratory MRL of 0.02 µg/L. The MRL is the lowest concentration that can be reported with precision and accuracy. Results that were reported between the MDL of 0.006 µg/L and MRL were flagged "J" as estimated by the laboratory. The MDL is the minimum measured concentration of a substance that can be reported with 99% confidence that the concentration is distinguishable from the method blank results. The "J" lab qualifiers were retained as data validation qualifiers for the results that were reported between the MDL and MRL.

Two field duplicates were collected at sampling locations Reference-2-01-062023-NC and Station 4-01-062123-C. Lead concentrations were not detected above the MRL for the field duplicate pair collected at Reference-2-01-062023-NC. Total and dissolved lead were detected above the MRL in sample Station 4-01-062123-C. Due to the low concentrations of total and dissolved lead reported in the sample and field duplicate (<5x the MRL, USEPA 2017), field duplicate precision was assessed by comparing the absolute value between the results compared to the MRL. The absolute values for total lead and dissolved lead reported for the field duplicate pair collected at Station 4-01-062123-C were within 2x the MRL of 0.020 µg/L (DoD 2022); therefore, field duplicate precision was determined to be acceptable for the concentrations of total and dissolved lead reported in the field duplicate pair collected at Station 4-01-062123-C.

# 4. DISCUSSION

The Lake Tahoe field investigation conducted by Ramboll in June 2023 determined that at all locations sampled, the concentrations of lead were similar to background levels in Lake Tahoe. In most cases lead was not detected at all. The detection limit for this study reflects use of the most sensitive method available for measuring lead in water and was much lower than the detection limit in prior studies of Lake Tahoe water. Based on this study, we conclude the water quality of Lake Tahoe in the vicinity of the cables or elsewhere is not being adversely impacted by the cables.

That conclusion is consistent with the findings of Haley & Aldrich in 2021.

The study performed by Haley & Aldrich (2021) used similar sample collection methods. Both teams collected water samples within six inches of the cable and utilized similar equipment (Van Dorn vs Kemmerer). Key differences included:

- The coordinates, especially for Station 5, varied between teams but both located the cable in the same area and collected the sample in a similar manner; and
- The laboratory reporting limit differed between the studies. Haley & Aldrich (2021) had a laboratory reporting limit of 0.043 µg/L, while the Ramboll study (2023) had a laboratory reporting limit of 0.02 µg/L.

Overall, at the locations sampled in both studies the results were below the MRL or non-detect for dissolved lead and total lead.

Results indicate that water samples collected directly above the cables in 2021 and 2023 predominantly showed concentrations that were below method reporting limits (0.02 µg/L) or method detection limits (0.006 µg/L). Station 4 was the only exception to this, but the concentration detected at close proximity to the cable (0.027 – 0.064 µg/L) was more than 200 times below the EPA's drinking water action level for lead (15 µg/L) and almost 40 times below the chronic ambient water quality criterion for aquatic life of 2.5 µg/L.

At all locations sampled, the concentrations of lead were consistent with background levels reported in Chien et al. (2019), which reports trace metal concentrations and lead isotope ratios in lake water, river water, and groundwater in the Tahoe Basin. They also measured aerosol total suspended particles as well as nutrient concentrations in those particles. Trace metal concentrations varied seasonally but were homogenous throughout the lake water column. Additionally, it was shown that the major sources of lead were from riverine and groundwater inputs. Aerosols did contribute to the lake, but in smaller quantities. Their full data set was retrieved and is summarized below.

- Groundwater (collected 2013) 5 samples avg 0.71 µg/L (2.44-0.12 µg/L);
- River (collected 2016) 7 samples avg 0.028 µg/L (0.137-0.002 µg/L); and
- Lake (collected 2013-2016) 59 samples avg 0.017 µg/L (0.058-0.003 µg/L).

Based on this study and our analysis of the sampling results, we conclude the water quality of Lake Tahoe in the vicinity of the cables or elsewhere, is not being adversely impacted by the cables.

# 5. REFERENCES

Chien, C.T., B. Allen, N.T. Dimova, J. Yang, J. Reuter, G. Schladow, and A. Paytan. 2019. Evaluation of atmospheric dry deposition as a source of nutrients and trace metals to Lake Tahoe. Chem. Geo. 511: 178-189.

Haley & Aldrich. 2021. Investigation shows legacy telecommunications cables are not affecting water quality in Lake Tahoe, California. October 2021

U.S Department of Defense (DoD). 2022. Data Validation Guidelines Module 5: Data Validation Procedure for Metals by ICP-MS.

U.S. Environmental Protection Agency (USEPA). 2017. Hazardous Waste Support Section SOP NO. HW-3b Revision 1 ISM02.2, ICP-MS Data Validation

USEPA. 2020. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review. U.S. Environmental Protection Agency.

# APPENDIX A
# SAMPLING TEAM RESUMES

RAMBOLL

ENVIRONMENT & HEALTH

# PAUL R. KRAUSE, PHD

**Principal**

Dr. Krause has over 30 years of experience in marine and aquatic ecology, toxicology, environmental impact analysis, environmental risk assessment, modeling, and regulatory permitting and negotiation. He is an internationally recognized expert in international permitting projects. His academic specialty is in marine ecology specializing in issues relating to the effects of large-scale industrial developments worldwide. His particular expertise revolves around development of multi-disciplinary teams for the management of large programs focused on marine and coastal environments. This includes development of port facilities, international impact assessments, designing and managing restoration projects (kelp forest and rocky reefs, corals, mangroves, and wetlands), emergency responses, decommissioning strategies, permitting, environmental studies, compliance, and agency negotiations. Dr. Krause has managed large impact and ecological assessments of marine and terrestrial receptors throughout the western United States, Gulf of Mexico, the Pacific Islands, Caribbean, Thailand, Malaysia, Brunei, Indonesia Australia, and West Africa.

**CONTACT INFORMATION**
**Paul R Krause, Ph.D.**

pkrause@ramboll.com
+1 562.400.4570

Ramboll
350 S Grand Avenue
Suite 2800
Los Angeles, CA 90071
United States of America

## EDUCATION

PhD, Ecology/ University of California, Santa Barbara, CA, 1993.

MS, Biological Sciences, California State University, Long Beach, CA, 1987.

BS, Marine Biology, California State University, Long Beach, CA, 1984.

## PROFESSIONAL AFFILIATIONS AND REGISTRATIONS

- Certified Professional Ecologist – Ecological Society of America, 2006-present
- International Association of Impact Analysis
- Society of Environmental Toxicology and Chemistry (National and SoCal Chapters)
- Society of Petroleum Engineers
- Journal of Experimental Ecology and Marine Biology–Editorial Board
- Archives of Environmental Contamination and Toxicology–Editorial Board

## FIELDS OF COMPETENCE

- Marine ecology: temperate, tropical and wetlands
- Ecotoxicology
- Sediment toxicology

- Natural Resource Damage Assessment (NRDA)
- Ecological risk assessment
- NEPA, CEQA and ESHIA studies
- Contaminated site investigations
- Oil spill response and cleanup

## COURSES TAUGHT

- Ecosystems Management and Conservation (team) – Rice University
- Environmental Toxicology; and Bioassay Methods – San Francisco State University
- Aquatic Ecology; Functional Design in Fishes; and Systematics of Fishes – University of California Santa Barbara
- Tropical Ecology – California State University Long Beach
- Field-Bases Exposure and Effects Measurements – SETAC Short Course
- Using Data Quality Objectives to Optimize Data Collection – SETAC Short Course
- Confounding Factors in Sediment Toxicology – SETAC Short Course

## KEY PROJECTS

## LITIGATION AND SUPPORT SERVICES

**Pipeline Spill, Litigation Expert**
Supported litigation efforts related to a pipeline spill in southern California. This included evaluation of data related to ship collisions, pipeline ecological communities, organism growth and survival at offshore locations. Results of studies informed counsel to the nature and extent of direct impacts associated with anchor hits to the pipeline.

**Streambed Ecology, Litigation Expert**
Evaluated streambed ecological impacts related to potable water release in high mountain stream in Vail, Colorado. This included review of plaintiff expert reports, evaluation of data, investigation to the potential toxicological impacts of the release. Developed a technical report for defense counsel and participated in agency negotiations on settlement.

**Offshore Decommissioning, Litigation Expert**
Served as defense expert in evaluating contractual obligations, state of the science, and regulatory history for platform decommissioning obligations in the Santa Barbara Channel. Reviewed technical and regulatory documents, formulated opinion, and provided technical advice to counsel.

**NPDES Discharges, Litigation Expert**
Supported NPDES litigation related to permit conditions for discharges at several large municipal wastewater sites. Issues included bacteriological, toxicological, and nutrient aspects of promulgated NPDES permits issues by the State.

**Sediment Quality Objectives, Principal Toxicologist**
Evaluated and developed the proposed framework for establishing sediment quality objectives for the State of California. Participated as a member of the Scientific Advisory Committee and evaluation of proposed methods for the evaluation and implementation of objectives to determine direct and indirect effects of contaminated sediments on ecological receptors.

**Project Toxicologist/Lead Stakeholder Outreach Scientist**
Developed the California Toxic Hot Spot review and sediment quality criteria. Provided direct support as liaison to SWRCB throughout the process. Served as member of the Scientific Steering Committee.

**Project Manager/Senior Ecologist**
Served as a litigation expert for stream and bay communities contamination from chromium, PCB, and fluoride contamination from groundwater sources. Project involved development of field studies,

interpretation of past studies, review and analysis of benthic ecological data, development of litigation support materials, and trial demonstrable materials.

**Principal Toxicologist**
Provided litigation support services, project management, and strategic consulting. This project supported an imminent and substantial endangerment claim brought against the client. Managed trial depositions of experts, review of plaintiff's expert reports, development of defense expert reports, and publication of trial demonstratives.

**Principal Toxicologist**
Supported pending litigation regarding a TMDL related to a drinking water reservoir. Activities included the design of proposed field studies, review of regulations, regulatory negotiations, and strategic consulting.

**Risk Assessor/Project Manager**
In preparation for a property transfer, conducted the Ecological Risk Assessment on effects of residual PCBs and metals on the terrestrial and marine communities in Humboldt Bay, CA.

**Risk Assessor/Project Manager**
Conducted the Ecological Risk Assessment on effects of mine tailings on a stream community at the Cornucopia mine site in eastern Oregon.

**Project Toxicologist/Project Manager**
Provided regulatory support, sediment study plans, field and laboratory services, and risk assessment assistance for routine maintenance dredging and development activities.

## NATURAL RESOURCES DAMAGE ASSESSMENT/RESTORATION

**Partner in Charge/Principal Ecologist**
Developed wetland restoration plan for the Carpinteria Salt Marsh. This project was a compensation effort related to offshore impacts associated with decommissioning. Developed the design of the restoration of a 45 acre marsh including channel development, lagoon and water outlet, plant communities, and avian resources.

**Partner in Charge/Principal Ecologist**
Developed wetland restoration efforts for the Port of Sonoma. This included development of sediment restoration and remediation, vessel navigation areas, and channel design. The 95 acre wetland was a restoration of previous salt hay agriculture that lasted for over 50 years. The original wetland suffered significant sediment loss during the agriculture areas. Final restoration and removal of levees resulted in tidal connectivity and establishment of a natural wetland community.

**Principal Ecologist**
Developed specific wetland restoration effort on the Cargill Salt Ponds in San Francisco Bay. This multi-year project was designed to restore natural wetlands to previous ponded areas used for salt production in the South Bay area. Provided ecological support, development and stakeholder outreach.

**Partner in Charge/Principal Ecologist**
Led a team of experts to support damage assessment of an oil spill in Peru following the Tonga volcanic explosion. This included reviewing response assessments, environmental damages, and ecological impacts. Worked with the client to develop remedial action plans for assessment and discharge monitoring.

**Partner in Charge/Principal Ecologist**
Retained expert in the assessment of streambed impacts from a water release to high mountain stream community. Assessment included review of habitat equivalency assessment, impacts to fishes and

benthic communities and evaluation of Trustee methods and assessments. Supported negotiations of final settlement.

**Partner in Charge/Principal Ecologist**
Retained expert for development of damage assessment in relation to a pipeline leak in Southern California. This included an evaluation of damage causes, spatial and temporal assessment of marine communities and impacts associated with anchor strikes.

**Partner in Charge/Principal Ecologist**
Provided expert support for a transfer pipeline spill of crude at a shipping terminal in San Francisco Bay. This included developing sediment and water sampling for environmental forensics (fingerprinting) of the source and spilled oil. Primary support with Trustee agencies for NRDA discussions.

**Partner in Charge/Principal Ecologist**
Developed spill response including sediment, biota, and water sampling efforts following a ship grounding on a coral reef in Mauritius. Developed a rapid response team under COVID-19 protocols to provide the responsible party with detailed daily updates, spill modeling, and recovery plans.

**Partner in Charge/Principal Ecologist**
Managed a diverse team of scientists to support the NRDA efforts around a pipeline spill in Santa Barbara, California. This included working with the client to support Technical Working Groups focused on marine impacts. Developed multiple restoration efforts in support of damage offsets including subtidal reef developments.

**Partner in Charge/Principal Ecologist**
Supported client-led efforts for NRDA settlement related to a pipeline spill. This included initial surveys of affected biota and development of appropriate and relevant restoration efforts.

**Partner in Charge/Principal Restoration Ecologist**
Provided expert support on coral recovery and restoration activities relative to the MS252 spill in the Gulf of Mexico. Duties included review of design proposal for both shallow and deepwater corals. Retained expert on deepwater coral recovery and biology as well as focus on development of coral recovery projects.

**Principal Marine Ecologist**
Developed coral restoration activities in relation to on-going oil and gas activities in Asia. This included development of restoration alternatives, implementation of artificial reef development and design of on–going monitoring efforts.

**Principal Marine Ecologist**
Developed mangrove restoration plan following a drilling fluid release in Southeast Mexico. This included restoration of areas of endangered black mangrove. Following fluid cleanup, ecological risk and restoration potential was evaluated and plantings started. Local NGO groups took over the ongoing monitoring and maintenance of the restoration site in conjunction with local regulatory authorities.

**Partner in Charge/Principal Ecologist**
Developed a key team of scientists to develop specific NRDA training modules for Marathon staff. Conducted on-site training for NRDA, SCAT, and other spill assessment efforts.

**Partner in Charge/Principal Ecologist**
Developed carbon sequestration model for wetlands as part of a restoration project in Santa Barbara County, California. This model provided the client with an estimate of potential carbon sequestration (in $CO_2$ equivalents) used to offset project emissions. The model is applicable to wetlands across a wide range of geographies and conditions.

**Principal Ecologist**
Developed a wetlands restoration project in conjunction with the public handover of salt ponds used for salt recovery in San Francisco Bay. This ProJet included evaluations of sediment and water quality

conditions in pre- and post-restoration areas relative to ecological needs for receptors of concern in the region.

**Partner in Charge/Principal Ecologist**
Developed a working model to predict carbon sequestration potential from grasslands. The focus of this project was to identify and quantify carbon sequestration (in $CO_2$ equivalents) on prairie and grassland ecosystems in conjunction with oil and gas well pad decommissioning. Following decommissioning the well pad areas were designed to be restored to native grasslands. The model has applicability for grasslands in a wide geographic range. Building upon existing published models, the outcome of this study produced a working model to be utilized by restoration groups and clients.

## TOXICOLOGY AND DISCHARGE RELATED STUDIES

**Principal Toxicologist**
Evaluated the functional toxicological relationship between acid discharges from a mining site in the central Sierra Nevada Mountains. Discharges released from the mine to the Feather River included mercury and copper discharges with particular effects on salmonids.

**Project Principal**
Managed toxicological investigation from accidental spill on the upper Feather River following a trucking accident that resulted in discharges of pesticide to the river.

**Project Principal**
Supported operations at the Leviathan Mine in Northern California. This included health and safety operations, toxicological support for discharges to local streams, and diesel spill cleanup.

**Project Director**
Designed and managed NPDES studies including permit negotiations for a large group of dischargers to San Francisco Bay. This program for over 15 dischargers included TIE studies to determine causative agents in effluent toxicity and served to bolster negotiations for renewal of NPDES permits.

**Project Director**
Designed and managed laboratory studies for storm water dischargers in the San Francisco Bay area and Central Valley to determine chlorinated pesticide loadings for permit negotiations. Study included a series of TIE studies to track storm water toxicity and its related causative agents. Specific studies were performed to determine toxicity thresholds using a variety of agricultural pesticides and herbicides.

**Project Director**
Managed routine discharge permit toxicity testing and evaluations for up to 25 dischargers using a variety of freshwater and marine organism pursuant to individual NPDES permits.

**Project Director**
Served as the principal investigator and senior toxicologist for a multi-phase TIE study for the City of Santa Cruz in accordance with a California consent order. Results of the study were used to evaluate and rectify engineering changes within the POTW system to meet NPDES discharge standards.

**Principal Investigator**
Analyzed spatial and temporal distributions of toxicity around a municipal-industrial wastewater discharge in Corpus Christi Bay, TX. Designed and led field and laboratory studies to characterize waste plumes using sediment pore-water toxicity, water chemistry, and benthic diversity data.

**Principal Investigator**
Served as principal investigator in an analysis of the ecological effects of oil-related effluents. Designed and led both field and laboratory studies to investigate effects on reproduction, growth, and development of marine invertebrates from produced water discharges in southern California.

**Environmental Specialist**
Projects involved lake management, water quality biology, hydrographic monitoring, and chemical analysis.

## IMPACT ASSESSMENT SERVICES

**Partner in Charge/Principal Ecologist**
Managed the international Impact Assessment for the development of a deepwater oil and gas facility offshore Angola. This included the establishment of environmental baseline, impact analysis, all documentation, and development of regulatory support process through the license to install phase for both the facility and associated seafloor pipeline.

**Project Principal/Marine Ecologist**
Developed a detailed review of deepwater methane hydrates that included search and review of existing peer-reviewed literature as well as agency and industry publications related to formation and hydrate properties, toxicology, and ecological impacts.

**Project Principal/Marine Ecologist**
Developed and led ecological evaluations of offshore resources of Angola including sediment, biota and water quality. Developed ecological resource valuations, fisheries, project alternatives, restoration potential, and current status evaluations throughout the region.

**Technical Marine Lead**
Provided technical input to the study design and field effort for developing the biological baseline of a deepwater exploration field. Field samples included deepwater drop cameras, water and sediment quality, and benthic resources. Specific emphasis was placed on the evaluation of the presence of chemosynthetic communities. Samples were collected at depth of over 900 m at over 17 station locations in a regional background approach.

**Project Principal/Marine Ecologist**
Conducted a detailed literature search and review of the effects of dispersants used in oil spill response. This culminated in a detailed review document for Chevron's internal use in developing spill response strategy.

**Project Principal Toxicologist**
Provided professional ecological risk assessment support for understanding risk issues at the Questa Mine. Provided oversight of field biological teams in sampling and analysis, data review, and ecological risk assessment particularly for metals toxicology related to terrestrial reptiles, mammals, and aquatic resources.

**Project Principal/Senior Marine Ecologist**
Assisted in scoping and project development for deep water fisheries studies in the deep offshore waters of the Nigerian coastline. Developed a sampling scope of work to determine fishery resources that included demersal/benthic, pelagic, and marine mammals. Data will be used by the client and the local government agencies to develop long-term fishery management strategies.

**Principal Marine Ecologist**
Provided expert evaluation of the feasibility of developing offshore mariculture facilities for the culture of large marketable species such as California halibut, rockfishes, yellowtail, and striped bass. Culture facilities were designed to be deployed onto existing offshore oil platforms as grow-out facilities in conjunction with Hubbs Sea World.

**Project Principal Marine Ecologist**
Managed marine resources and development of components of drilling plan for resources in Alaska's Chukchi Sea. Studies included impacts of ice scour, marine noise, and drilling activities on marine mammals (cetations and pinepeds), marine fishes, and terrestrial mammals (polar bears).

**Principal**
Developed complex project application package under CEQA for the citing and permitting of an offshore Liquefied Natural Gas (LNG) terminal in the Santa Barbara Channel. Project tasks included detailed plume modeling, terminal NPDES permit applications, and the permitting of a 45 mile LNG pipeline through the southern California Mountains.

**Project Principal/Senior Ecologist**
Principal investigator and program manager for development of necessary permits under CEQA for the removal of over six miles of abandoned pipelines. Pipelines ran across sensitive habitats along the Santa Barbara bluffs. Developed effective stakeholder advocacy plans with agencies such as CCC, CSLC, and City of Goleta. Additionally, supported engineering estimates for the development of innovative approaches to the removal of the pipeline with minimal impacts. Developed HSSE, Fire Control, permit monitoring, and demolition teams.

**Project Principal/Senior Scientist**
Managed a team to develop drilling permits and application packages for the first on-shore drilling project within Los Angeles County in over 25 years. This project involved development of permit packages and evaluation of impacts to local ecology, resident communities, and the public.

**Principal Marine Ecologist**
Developed and led the evaluation of marine impacts related to the largest 3D seismic survey to be conducted in California under CEQA. The resultant EIA included impacts to nearshore fish and invertebrate populations, marine mammals, and marine habitats extending across central California.
**Principal Marine Ecologist**
Developed and led the marine impact assessment ESHIA team and served as the primary subject matter expert for the determination of impacts related to marine port development facilities in southwestern Alaska. Impacts evaluated included marine threatened and endangered species, fish and invertebrate communities, and marine habitats.

**Senior Review**
Provided expert review of project deliverables related to the potential effects of mine tailing sediments on fluvial stream resources including fish and invertebrate resources at the Pebble Mine in Bristol Bay, AK.

**Project Principal/Senior Scientist**
Developed and managed scientific services for the decommissioning of a relic oil pier. This included development of permits and monitoring plans for the threatened and endangered species, de-construction activities monitoring, and development of a long-term ecological study of the newly created artificial reef. This project involves CEQA reporting, subtidal monitoring activities and reporting.

## SEDIMENT INVESTIGATIONS

**Partner/Principal Toxicologist**
Worked on a large-scale lake remediation project. Tasks included development of sampling and analysis plans, negotiations with key Federal and State agencies, field supervision, and data analysis/reporting.

**Principal Toxicologist**
Collected and analyzed sediment data related to remediation at the U.S. Naval Base at Coronado, California. This included development of a detailed ecological risk assessment, and negotiations with State agencies and the U.S. Navy.

**Gulf of Thailand, Project Principal/Marine Ecologist**
Developed and led ecological evaluations of offshore resources including sediment, biota, and water quality. Developed ecological resource valuations, fisheries, project alternatives, restoration potential, and current status evaluations throughout the region.

**Project Manager/Toxicologist**
Provided senior level management for the development of the site characterization and risk assessments associated with an Early Action under CERCLA for the Port of Portland. Led field sampling,

laboratory quality assurance, project management, and reporting through the Engineering Estimate/Cost Analysis (EE/CA) report. Superfund Site, Puget Sound, WA.

**Chemical Quality Control Officer/Toxicologist**
Developed a comprehensive monitoring program. Provided quality control oversight and reporting for the placement of dredged material at the PSR site. Developed Sampling and Analysis Plans and Quality Assurance Project Plans, negotiated with regulators, and performed water quality modeling.

## OIL AND GAS DECOMMISSIONING

**Partner in Charge/Principal Toxicologist**
Developed decommissioning strategy around plastic and flexible flow lines and umbilicals around leave in place options for deepwater production sites. This included detailed literature reviews, plastic degradation studies and toxicological reviews.

**Project Manager/Senior Marine Ecologist**
Developed a decommissioning plan and environmental impact assessment for marine fish populations related to the closure and dismantlement of offshore oil production and transportation facilities in the Islamic Republic of Mauritania. Developed initial environmental impacts associated with deepwater decommissioning and leave-in-place options for subsea structures, lines, and associated infrastructure.

**Partner in Charge/Principal Ecologist**
Developed a decommissioning strategy plan for offshore and onshore decommissioning of pipelines in Brunei. This included developing detailed ecological and human health risk assessments for various decommissioning options.

**Marine Ecologist**
Performed an evaluation of decommissioning strategies from the environmental perspective for platform resources in the North Sea. Evaluations included understanding contaminated sediments and sub-sea structures related to decommissioning and abandonment activities planned.

**Project Principal/Senior Marine Ecologist**
Developed Net Environmental Benefit Analysis models for determining effective decommissioning options for offshore assets including central processing platforms, wellhead platforms and pipelines. Efforts included developing impact assessments for air, marine, and benthic resources.

**Project Principal/Senior Marine Ecologist**
Developed the Decommissioning Environmental Assessment (DEA) document to support the decommissioning of multiple well head, central processing, and sub-sea structures in the Gulf of Thailand. This included detailed field studies and a quantitative evaluation of decommissioning options and methods.

**Marine Ecologist**
Managed the evaluation of decommissioning options for the Brent Sea platforms. Environmental assessment included a review of all platform assets and life cycle status, biological resources in the North Sea, and incidence of shell mound habitats underneath platforms. Additional studies included the effects of deepwater trawling on biota and long term effects in the oil fields.

**Project Principal/Senior Marine Ecologist**
Managed the marine sciences and ecological risks associated with the disposition of residual shell mounds from the decommissioning of the 4H oil production platforms located in the Santa Barbara Channel. Led marine science investigations on the mounds, developed monitoring strategies, political strategy with CCC, CSLC, and other agencies, technical frameworks, and project designs for innovative studies to support the CEQA/NEPA process and develop the environmentally superior project alternative.

**Project Principal Marine Ecologist**
Provided ecological support for determining potential effects to marine resources from decommissioning activities related to potential removal of platforms within the Cook Inlet. Studies included development

of baseline ecological resources, resource mapping, and data evaluations.

## OTHER KEY PROJECTS

**Program Manager**
Served as the primary contact and manager for multi-year service contracts for several U.S.ACE districts. Projects included maintenance dredging projects for over 50 sites throughout California, Oregon, and Hawaii. Managed the disposal and daily operation of the largest contained disposal facility in California at the Galbraith Disposal Area in Oakland, California. Developed study designs, field sampling plans, and supervised field and laboratory activities related to permitting of ACOE projects.

**Program Manager**
Managed multi-year sediment projects including maintenance dredging, new construction dredging, and Port development projects. Supervised field studies involved in dredging and risk assessment activities related to contaminated sediment issues for the Port. Projects included serving as the program manager for the West Basin, Channel Two, Pier T, and Pier S deepening and terminal development projects. Activities included regulatory interactions, sampling plan designs, field studies, and laboratory toxicity studies.

**Program Manager**
Supervised staff in regulatory interactions, sediment quality guideline development, and permitting for routine maintenance dredging and new construction projects for the Port over multiple years. Projects included sediment studies at all Port terminals, supervision of dredging activities, and disposal operations. Served as manager for field activities for the 50-foot deepening project and Middle Harbor re-development that included collection and analysis of over 250 sediment samples.

**Program Manager**
Managed sediment projects for the Port that included sediment sampling, testing, and long-term evaluations. Projects included maintenance dredging, and new construction dredging at various Port properties including municipal marinas, bulk loading terminals, and container terminals. Management tasks included development of detailed management plans for contaminated sediments, regulatory interactions, supervising field, and laboratory studies, and development of sediment action plans for sites at risk.

**Project Toxicologist**
Designed field and laboratory studies to investigate sediment quality for the future home-porting of Navy assets in Pearl Harbor and San Diego.

**Program Manager**
Managed the long-term study designed to detect toxicity in sediments from sunken Navy target ships at depths of over 2000 feet. Designed field study programs, developed innovative protocols, engineered field sampling equipment, and provided laboratory support.

**Principal Investigator**
Managed the data collection, interpretation, and statistical analysis of a long-term deep sea study of the effects of offshore discharge of drilling fluids. This study included placement of settling traps and in-situ bioassays at a depth of over 600 feet in the Santa Barbara Channel.

**Principal Investigator**
Analyzed spatial and temporal distributions of toxicity around a municipal-industrial wastewater discharge. Designed and led field and laboratory studies to characterize waste plumes using sediment pore-water toxicity, water chemistry, and benthic diversity data.

**Southern California. Principal Investigator**
Analyzed the ecological effects of oil-related effluents. Designed and led both field and laboratory studies to investigate effects on reproduction, growth, and development of marine invertebrates from produced water discharges.

**Catalina Island, CA. Principal Investigator**
Conducted studies to quantify the level fish mediated heavy metal importation onto rocky reefs.

## PUBLICATIONS (SELECTED)


- Krause, P.R., and J. Baquiran. 2023. Subtidal intake systems for deepwater desalination. Keynote address presented at the 2023 CalDesal Conference, Sacramento, CA.
- Baquiran, J. and Krause, P. (2022) Important Considerations for Pharmaceutical Development and Use in Aquaculture. Aquaculture 2022 Conference, San Diego.
- Krause, P.R., and J. Baquiran. 2019. Determining environmentally superior decommissioning options for hard and flexible pipelines. Society of Petroleum Engineers, SPE Journal. 2019.
- Jagerroos, S. and P.R. Krause. 2016. Rigs-to Reefs; Impact or enhancement on marine biodiversity. Journal of Ecosystem and Ecography. 16-438.
- Krause, P.R., M. Hartley, and W. Gala. 2015. Mitigation and restoration to enhance biodiversity. Presented at the International Association of Impact Assessment conference, Florence, Italy. 2015.
- Krause, P.R. 2014. Ecological value of leave-in-place and reefing options in temperate environments: Case studies from decommissioning projects in California, U.S.A. Society of Petroleum Engineers, SPE Journal. 2014.
- Krause, P.R. J. Holder, and E. Buchak. 2013. Environmental baseline studies in the IA: Form and Function. Presented at the International Association of Impact Assessment conference, Calgary, Alberta, Canada. 2013.
- Krause, P.R., R. Hill, and W.R. Gala. 2012. The Ecological resources on shell mound habitats surrounding platform decommissioning sites in the Santa Barbara Channel, California, U.S.A. Society of Petroleum Engineers, SPE Journal. 2012.
- Krause, P.R. 2010. A new artificial reef in Santa Barbara, California: An example of environmental enhancement from oil field decommissioning activities. Presented at the Ecological Society of America, 2010 Annual Conference, Pittsburgh, PA.
- Krause, P.R., R. W. Hill, W.R. Gala, and S. Larew. 2010. Determining the ecological value of fish resources at platform decommissioning sites using ROV and trapping techniques in the Santa Barbara Channel, U.S.A. Society of Petroleum Engineers, SPE Journal 2010.
- Krause, P.R. 2002. Ecological toxicology of produced water. Proceeding, 2002 Information Transfer Meeting, US Department of the Interior, Minerals Management Service, Gulf Coast Region.
- Raimondi, P.T., A.M. Barnett, and P.R. Krause. 1997. The effects of drilling muds on marine invertebrate larvae and adults. Env. Tox. and Chem.16(6):1218-1228.
- Krause, P.R. 1995. Spatial and temporal variability in receiving water toxicity near an oil effluent discharge site. Arch. Env. Contam. Toxicol. 29:523-529.
- Krause, P.R. 1994. Effects of produced water on gametogenesis and gamete performance in the purple sea urchin (*Strongylocentrotus purpuratus*). Env. Tox. and Chem. 13(7): 1153-1161.

RAMBØLL

ENVIRONMENT & HEALTH

# JULIANE BAQUIRAN

## SENIOR MANAGING CONSULTANT

Juliane is a Senior Managing Consultant at Ramboll US Consulting, Inc., with a specialty in environmental toxicology and aquatic ecology. She has fifteen years of experience in project management for large logistically challenged projects, including multifaceted environmental impact assessments and ecological risk assessments. Juliane has a depth of research in the fate and transport of chemicals in the environment, mechanism investigations on the effects of toxicants in fish, and risk analysis. She also has expertise in evaluating metals (i.e., mercury, lead, etc.), naturally occurring radioactive materials (NORM), and persistent organic pollutants in water and sediments, with risk to aquatic organisms; acute and chronic ecotoxicity in marine and freshwater environments; food web modelling; and dose-related risk in aquatic systems. She specializes in evaluating the effects of industrial developments/decommissioning, with a focus on potential contaminant exposure and environmental risk. Ms. Baquiran has managed ecological assessments globally, including California, Australia, Gulf of Thailand, Brunei, Malaysia, Mexico, Trinidad & Tobago, Europe, and Canada.

### EDUCATION

2009 B.S. Biology with a minor in Chemistry, Alverno College, Wisconsin, US

### MEMBERSHIPS/CERTIFICATIONS

- Society of Environmental Toxicology & Chemistry (SETAC)
- World Aquaculture Society
- Adult and Pediatric First Aid/CPR/AED

### KEY PROJECTS

**Project Manager/Toxicologist/Ecological Risk Assessments (ERA)**

Managed and performed eight ERAs for discharges of produced water, completion fluids, and hydrotest water from multiple offshore platforms off the coast of Trinidad. Evaluated over 45 constituents of potential concern (i.e., metals, PAHs, BTEX, etc.). These projects also involved baseline ecological risk assessments (BERAs) and food web modelling.

**Project Manager/Toxicologist/Ecological Risk Assessment (ERA)**

Managed and performed ERA for effluent discharges from liquefied natural gas plant in Brunei. Evaluated ammonia, phosphorus, chlorine, and total suspended solids.


### CONTACT INFORMATION

**Juliane Baquiran**

jbaquiran@ramboll.com
+1 213-943-6300

Ramboll
350 S Grand Avenue
Suite 2800
Los Angeles, CA 90071
United States of America


### KNOWLEDGE/COMPETENCIES

- Environmental Toxicology
- Aquatic Toxicology
- Marine & Freshwater Ecology
- Fate & Transport of Chemicals
- Ecological Risk Assessment
- Impact Assessment

**Toxicologist/Human Health and Ecological Risk Assessment (HHERA)**

Prepared a HHERA for the decommissioning of multiple offshore and onshore pipelines in Southeast Asia. Evaluated over 40 constituents of potential concern, performed food web modelling, and human health exposure limits.

**Program Manager/Marine Toxicologist/Decommissioning & Environmental Evaluations**

Managed program and led team for multiple projects related to potential decommissioning strategies in Western Australia. Responsible for team management, project timeline, deliverable schedule, and financials. Developed decommissioning strategy evaluating flexible flowlines for leave-in-place options at deepwater and shallow water production sites. This included detailed literature reviews, plastic degradation studies and toxicological assessment. Specific project details included:

- Evaluated fate and toxicology of parent compound and functional additives of plastics used in development of flexible flowlines and polyurethane foams. Verified parent compounds and additives via laboratory analysis utilizing FTIR and HPLC/GCMA. Analysis included ecological risk assessment.
- Evaluated impacts related to residual mercury in offshore pipelines set for abandonment. This included detailed mercury modeling of residual concentrations, sediment impact analysis, and an ecological risk assessment.

**Program Manager/Marine Toxicologist/Decommissioning & Environmental Evaluations**

Managed program and led team for multiple projects related to potential decommissioning strategies in Bass Stait. Responsible for team management, project timeline, deliverable schedule, and financials. Specific project details included:

- Evaluated fate and toxicology of parent compound and functional additives of plastics used in development of flexible flowlines, umbilicals, and related infrastructure.
- Designed sampling program for plastic study.
- Verified parent compounds and functional additives via laboratory analysis, utilizing various methods including FTIR, NMR, ICP-AES, HPLC/GCMS, and TGA techniques.
- Analyzed degradation rate of polymers and potential impacts to surrounding environment; performed mass balance analysis.
- Designed sampling program for naturally occurring radioactive material (NORM) and mercury to evaluate concentration and distribution within pipelines and associated infrastructure.
- Verified concentrations via laboratory analysis for both NORM and mercury via EPA established methods.
- Performed ecological risk assessment.

**Program Manager/Marine Ecologist/Decommissioning & Environmental Evaluations**

Managed program, logistics and project success for multiple ecological assessments in Brunei. Responsible for team management, project timeline, deliverable schedule, and financials. Projects included:

- Desktop study evaluating potential impacts from a toxicological event on coral reefs in the Indo-Pacific region. Analysis included historical review of release, ROV analysis on corals/fish/macroinvertebrates, and impact assessment.
- In-depth assessment on coral surveys from 2006 to 2019 to evaluate coral health and quality in the South China Sea.
- Assessment evaluating potential impacts from seismic activities in the South China Sea. Methodology utilized ROV transects to locate coral colonies and address overall health.
- Desktop Study and field deign for coral quality and abundance through ROV surveys and benthic analysis to determine success of Rig-to-Reef Program in the South China Sea.

- Study design and implementation to evaluate potential reefing sites for Rigs-to-Reef program including sampling plan, decision tree formation, data evaluation, and strategic studies.

**Toxicologist/Environmental Impact Analysis**

Evaluated impacts related to discharge of polypropylene beads into marine environment with a focus on reef systems. Analysis including modelling, fate and transport, and ecological impact.

**Project Manager/Marine Ecologist/Ecological Evaluation**

Developed ecological evaluations of offshore resources including sediment, biota, fisheries and water quality in the Gulf of Thailand. Developed project alternatives, restoration potential, and status evaluations throughout the region. Project also included in-depth analysis of potential mercury contamination related to offshore oil and gas operations.

**Project Manager/Toxicologist/Pharmaceutical Degradation Analysis**

Evaluated metabolism and degradation of pharmaceuticals utilized in salmonid hatcheries. Investigated fate and transport, potential degradation options, and testing procedures for waste elimination verification.

**Project Manager/Toxicologist/Laboratory Degradation Analysis**

Developed laboratory studies to evaluate oxidation as potential degradation option for pharmaceuticals for aquaculture use. Included study design, implementation, analysis, and feasibility in large scale operations.

## IMPACT/ENVIRONMENTAL ASSESSMENT SERVICES

**Program Manager/Marine Ecologist/Permitting Support for Decommissioning**

Managed development of CEQA project application for decommissioning of a large coastal nuclear power plant. Authored CEQA studies related to: Marine Biology, Underwater Noise, Marine Traffic, and Restoration. Details include:

- Underwater noise impact assessment from construction activities related to decommissioning. Analyzed and modeled acoustical impact zones from vessel operations and pile driving for marine mammals, fish, sea turtles, and seabirds.
- Underwater noise analysis on the Pacific Coast comparing marine baseline conditions to operational noise from the power plant. Sound propagation was modelled and mapped graphically. Impact assessment was also prepared for sound signatures.
- Marine traffic impact assessment from construction activities related to decommissioning. Analyzed increased traffic from construction operations, current recreational patterns, marine mammal migrations, and behavior of ecological receptors in the area. Developed a sensitivity matrix for marine receptors and magnitude of impacts.
- Environmental Assessment (EA), Biological Assessment (BA) for NEPA application under Section 10/404, including essential fish habitat (EFH) evaluations for decommissioning of a power plant in California. Responsible for NEPA application package, supplemental documentation, and deliverable.
- NEBA study focused on evaluation of decommissioning alternatives.

**Program Manager/Marine Ecologist/Environmental Impact Assessment**

Managed logistics and prepared Environmental Impact Assessment for the development of a port off the coast of Trinidad. Responsible for team management, project timeline, deliverable schedule, and financials. Highlights include:

- Performed biological baseline surveys for marine mammals, sea turtles, marine birds, marine fish, and intertidal and subtidal benthic life.
- Prepared an underwater noise impact assessment from constructions related activities for the development of the port. Analyzed and modeled acoustical impact zones from dredging, vessel operations, and pile driving for marine mammals, fish, sea turtles, and seabirds.
- Prepared a marine traffic impact assessment from constructions related activities for the development of the port.
- Performed social outreach and stakeholder engagement. Supported preparation of public meetings. Communication liaison with locals for project duration.

**Project Manager/Technical Lead/Underwater Noise & Brine Impact Assessment**

Collected underwater noise baseline data in the Gulf of California for environmental impact assessment. Modeled baseline conditions and evaluated construction, vessel, and dredging impacts. Performed brine discharge impact assessment.

Prepared marine noise environmental monitoring plan for construction-related activities. This involved the development of a sophisticated underwater noise study evaluating speed reduction and sounds levels produced from LNG Tankers.

**Project Manager/Permitting Support**

Prepared EA and NEPA application for rebuild of a coastal ferry terminal in Puerto Rico. Assessment included construction plans, endorsements, land surveys, geotechnical studies, subsurface, utilities, traffic, noise, waste, biological, and overall package completion.

**Technical Lead/Fisheries Ecologist/Permitting Support**

Prepared BA for NEPA application under Section 10/404, including EFH evaluations for port development in California.

**Technical Lead/Marine Ecologist/Permitting Support**

Reviewed BA, EHF Assessment, and NEPA permit application as technical expert under Section 10/404 for due diligence acquisition in South San Francisco Bay.

**Project Manager/Marine Ecologist/Impact Assessment**

Managed international team, responsible for financials and project timeline.

Performed high-level impact assessment on soil, marine sediment, water quality, flora & fauna, air quality, heritage & cultural resources, hazardous material, noise, waste management, water treatment, carbon footprint & GHG, and energy reduction & needs for offshore desalination facilities. Additionally, drafted a sustainability report outlining material sourcing, land use, workforce needs, GHG, and energy usage as well as permitting requirements for intended countries.

**Project Manager/Underwater Noise/Environmental Impact Report**

Prepared an underwater noise impact assessment from construction related activities for well abandonment in California. Analyzed and modeled acoustical impact zones from pile driving for marine mammals, fish, sea turtles, and seabirds.

**Project Manager/Marine Biologist/Rigs-to-Reef Program**

Performed literature evaluation obtaining and summarizing relevant published work on progress, scientific study, evaluation, policies, and strategic studies for Rigs-to-Reef program under the Bureau of Safety and Environmental Enforcement of the U.S. Department of the Interior.

**Project Manager/Marine Biologist/Net Environmental Benefit Analysis (NEBA) & Ecological Evaluations**

Performed a quantitative NEBA study focused on evaluation of decommissioning alternatives for jackets and pipelines in the Gulf of Thailand, with fish production as the key metric.

Developed sampling analysis program for ecological evaluations of offshore resources related to mercury & PCBs including sediment, biota, fisheries and water quality in the Gulf of Thailand. Developed in country strategies for obtaining data, project alternatives, restoration potential, and status evaluations throughout the region.

**Marine Biologist/NEBA**

Performed a semi-quantitative NEBA study focused on evaluation of decommissioning alternatives for pipelines in Western Australia.

**Marine Biologist/NEBA**

Performed a semi-quantitative NEBA study focused on evaluation of decommissioning alternatives for jackets and pipelines in the North Sea.

## ADDITIONAL DESKTOP SERVICES

**Project Manager/International Regulations**

Supported in development of IOGP publication, focused on updating global decommissioning guidelines.

Supported in development of IOGP publication, focused on habitat retention guidelines for decommissioning.

**Project Manager/Offshore Wind/Stakeholder Engagement Mapping**

Supported robust stakeholder mapping exercise in California for Offshore Wind client. Identified and ranked statewide stakeholders, including a mean priority index for each stakeholder/group, risk ranking opportunity matrix, and engagement plan.

**Project Manager/Fisheries Ecologist/Ecological Evaluation**

Performed ecological evaluation assessing potential impacts to Atlantic and Shortnose sturgeon for the Savannah Harbor Expansion Project. Investigated feasibility and logistics of implementing a fish ladder in Savannah Harbor. Drafted a habitat alteration assessment.

**Project Manager/Toxicologist/Waste Handling**

Performed in depth analysis of waste handling procedures of salmonid hatcheries in Norway and Canada. Utilized data to support a study for animal health pharmaceuticals and potential waste stream elimination.

**Project Manager/Marine Biologist/Permitting Strategies**

Develop matrix for permitting strategies related to offshore aquaculture. Matrix complied data resources, regulations, and biological information for offshore planning.

**Toxicologist/Emergency Response Plan**

Evaluated 100-year flood impacts and TMDLs in the San Jacinto River basin from proposed project site. Developed a structured Emergency Response Plan for the client.

**Project Manager/Fisheries Biologist/Health & Safety Services**

Assisted in writing the Health & Safety manual for near water work in remote areas to support habitat surveys, fish sampling, and antennae installation.

## OIL SPILL REPONSE

**Spill Drill – Trinidad**

Participated in international spill drill as part of the environmental unit for condensate blow out in Caribbean. Primary responsibility was resources at risk (ICS 232) and various sampling/wildlife monitoring and management plans.

## PUBLICATIONS & PRESENTATIONS

- **Baquiran, J.** and Krause, P. (2022) Important Considerations for Pharmaceutical Development and Use in Aquaculture. Aquaculture 2022 Conference, San Diego.
- Krause, P. and **Baquiran, J.** (2019) Determining Environmentally Superior Decommissioning Options for Hard and Flexible Pipelines. Society of Petroleum Engineers, SPE Journal 2019
- **Finn, J.**, et al., (2012) Effects of Propranolol on Heart Rate and Development in Japanese Medaka (Oryzias latipes) and Zebrafish (Danio rerio). Aquatic Toxicology. 122-123: 214-221
- Sheng, Y. P., **Finn, J.** et al. (2008) Development of a multi-group, three-dimensional sediment transport model. Report for Task 1 of the Development of Multi-Group Sediment Transport Model for St. Lucie Estuary Project to the South Florida Water Management District.
- Sheng, Y. P., **Finn, J.** et al. (2008) Study of the ETM Dynamics. Report for Task 2 of the Development of Multi-Group Sediment Transport Model for St. Lucie Estuary Project to the South Florida Water Management District.
- Sheng, Y. P., **Finn, J.** et al. (2008) Wave-induced Resuspension. Report for Task 3 of the Development of Multi-Group Sediment Transport Model for St. Lucie Estuary Project to the South Florida Water Management District.
- Sheng, Y. P., **Finn, J.** et al. (2008) Final Summary Report. Development of Multi-Group Sediment Transport Model for St. Lucie Estuary Project to the South Florida Water Management District.

RAMBOLL

ENVIRONMENT & HEALTH

# LINDA MARTELLO

**Manager**
**PhD Toxicology / Ecological Risk Assessment**

## EXPERIENCE HIGHLIGHTS

Dr. Linda Martello has over 20 years of experience in environmental toxicology and risk assessment. As a terrestrial and aquatic toxicologist, Dr. Martello is responsible for project management and technical research involving the ecological impacts associated with chemical contamination of aquatic and terrestrial environments, and species-specific toxicity of chemicals to a wide variety of aquatic and terrestrial organisms. Linda's expertise includes chemical acute and chronic toxicity thresholds to marine and freshwater organisms, establishing species-specific ecotoxicity benchmarks for chemicals and chemical mixtures, ecological risk assessment of persistent, bioaccumulative organic pollutants (e.g., dioxins and PCBs) and metals (e.g., chromium and mercury), food web modeling, chemical fingerprinting, chemical environmental fate, speciation of metals in aquatic systems and geochemistry of metals in aquatic systems.

## REPRESENTATIVE PROJECTS

- Project manager for three ecological risk assessments at the Nevada Environmental Response Trust CERCLA Site in Henderson, Nevada. The ERAs are underway as part of the Remedial Investigation/ Feasibility Study (RI/FS) for the NERT Site to evaluate whether conditions from historical manufacturing activities pose a potential risk to ecological receptors at the Site and surrounding areas. Contaminated groundwater from the Site flows to the Las Vegas Wash, several miles from the site. The Wash contains ESA species including the desert tortoise, Yuma clapper rail, yellow-billed cuckoo and the Southwestern willow flycatcher. A comprehensive field sampling effort was conducted over the course of a year within the Las Vegas Wash to assess potential risk to aquatic and terrestrial wildlife including the ESA species that inhabit the wash. The field effort included the collection of surface water, sediment, sediment pore water, bank soils, benthic invertebrate tissue, fish tissue, and benthic invertebrate community assessment.
- Project manager for four baseline ecological risk assessments (BERA) prepared for the Salt River Project (SRP) Navajo Generating Station (NGS). The evaluation of impacts to species federally listed as endangered was conducted for NEPA documentation, including the ecological importance and distribution of the affected species, and intensity of potential impacts of the generating station on these species. The ERA team prepared five comprehensive ecological risk assessments to support a NEPA Environmental Impact Statement (EIS) and Endangered Species Act (ESA) Section 7 Consultation. The assessment included a comprehensive evaluation of fish species potentially impacted by the generating station. A comprehensive field sampling effort was conducted over the course of 1.5 years within the Lake Powell area to assess potential risk to aquatic and terrestrial wildlife including the ESA species that inhabit the wash. The field effort included the collection of surface water, sediment, sediment

## CONTACT INFORMATION

**Linda Martello**

lmartello@ramboll.com
+1 (415) 420-9369

Ramboll
2200 Powell Street
Suite 700
Emeryville, CA 94608
United States of America

## EDUCATION

1993
**BS, Biology**
University of California, Santa Cruz

1999
**PhD, Environmental Toxicology**
University of California, Santa Cruz

## MEMBERSHIPS

Society of Environmental Toxicology and Chemistry (SETAC), 1995 – present

pore water, soil, benthic invertebrate tissue, fish tissue, and benthic invertebrate community assessment. The project involved direct collaboration and coordination with the US Fish and Wildlife Service, the US Bureau of Reclamation, and the US EPA.

- Project manager for a comprehensive Baseline Ecological Risk Assessment (BERA) conducted for the Kayenta Mine Complex (KMC) in Kayenta, Arizona. The BERA was designed to evaluate the impacts of mining activities on terrestrial and aquatic habitats within the KMC property. The Kayenta Mine is located on 44,073 acres of leased land within the boundaries of the Hopi Tribe and Navajo Nation on a highland plateau called Black Mesa in Northeast Arizona. The mine supplies approximately 7.5 million tons of low-sulfur thermal coal annually to the Navajo Generating Station (NGS) near Page, Arizona. The KMC BERA included an evaluation of representative species expected to occur in the area as well as effects to Native American, state and federally listed species. The field effort for the mine included sampling in several permanent ponds present on the mine property were key focus areas for the ERA in regard to direct impact to wildlife and the bioaccumulation of chemicals through the food web with a particular focus on fish species potentially impacted by mine activities. The project involved direct collaboration and coordination with multiple stakeholders including the Bureau of Reclamation, the Office of Surface Mining Reclamation and Enforcement, the US Fish and Wildlife Service, the Bureau of Indian Affairs, the US Environmental Protection Agency, the Navajo Nation, Hopi Tribe, and National Parks Service.
- Project manager for the ecological risk assessment at the New Idria Mercury Mine CERCLA Site; San Benito County, California. A BERA is being conducted as part of the Remedial Investigation/Feasibility Study (RI/FS) for the New Idria Mercury Mine Site to evaluate whether current site conditions pose a potential risk to ecological receptors at the Site and surrounding areas. In 2011. New Idria was listed as a US EPA Superfund Site due to unchecked mercury run-off and contamination. Elevated levels of mercury have been found downstream of the town, as well as significant levels of mercury and other metals found within the tailings piles on Site. The BERA includes the identification and evaluation of impacts to listed species for NEPA documentation, including potential impacts to fish in the San Carlos Creek and downstream. As such, the BERA will support requirements under NEPA and Endangered Species Act Section 7 Consultation.
- Project leader in the execution of an ecological and human health risk assessment for a CERCLA (Superfund) Site in the lower Hackensack River, N.J. The risk assessment included consideration of sediment dwelling invertebrates, forage and predatory fish, omnivorous and carnivorous birds, and recreational and subsistence anglers, in a manner consistent with technical approaches widely recognized by USEPA, United States Navy (US Navy), United States Army Corps of Engineers (USACE), and state environmental agencies. A key aspect of the evaluation was the evaluation of essential fish habitat and migratory fish species entering the area and the potential impacts of historical manufacturing activities to these species. Chemicals evaluated in the risk assessment included metals, pesticides, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and polychlorinated dibenzo-p-dioxins and furans (PCDD/F).
- Conducted field work involving the transfer of PCBs from mother to pup among Northern Elephant Seals (*Mirounga angustirostris*), at Ano Nuevo Island, California. The project required the collection of blood, blubber and milk from Northern Elephant Seals to determine PCB loads as well as transmission of PCBs and other lipophilic compounds (polyaromatic hydrocarbons [PAHs], pesticides) from mother to pup through colostrum/milk. Additionally, an immunosorbent assay was used to determine antibody concentrations and the impact of PCB exposure on serum concentrations of total immunoglobulin. This work required expertise with sophisticated pharmacokinetic models in order to understand PCB mechanisms of action among marine mammals.
- Conducted an evaluation of PCB loads in California versus Alaskan Sea Otters. Liver samples from adult male sea otters were collected to compare PCB, pesticides, polychlorinated dibenzo-p-dioxins (PCDDs); and polychlorinated dibenzofurans (PCDFs) levels in three different sea otter populations: California,

Aleutian Islands and Southeast Alaska. The purpose of this study was to determine if organochlorine contaminants could be contributing to the depressed rate of increase in the California sea otter population.

- Performed necropsies on various marine mammals (elephant seals, California sea lions, harbor seals, Pacific white-sided dolphins, sea otters) for tissue harvesting and evaluation of cause of death of stranded marine mammals along the coast of California including chemical evaluations.
- Project manager for a CEQA review of biological resources potentially impacted by the Phillips 66 oil refinery in Rodeo, CA. The project required an in-depth analysis of migratory and sensitive fish species as well as an evaluation of essential fish habitat within the vicinity of the refinery. Fish species ranges, critical habitat, foraging behaviors and movement patterns were included in the evaluation.
- Project manager for a biological resources and wetlands assessment to ascertain the presence of sensitive resources on a property located in the California Bay Delta. The biological assessment included a comprehensive evaluation of the presence or absence of special status species (including T&E species) within the property boundaries. The wetlands evaluation focused on historical waterbodies, potential ponding areas and vegetation types that inform the potential presence USACE jurisdictional wetlands. The assessment included a complete document review followed by a multi-day focused site reconnaissance for evidence of key T&E species. The site reconnaissance also included the use of a Phantom 4 Pro Drone to catalogue topographic and vegetation data. The VARI (Visible Atmospherically Resistant) Index was used to highlight vegetation location, type and health.

**Additional Relevant Project Experience**

- Project leader in the execution of an ecological risk evaluation at a lead smelter site on the Mississippi River. The site required a detailed evaluation of metals and potential risk to aquatic and terrestrial receptors and required a thorough evaluation of potential risks to the adjacent wetland. A weight of evidence approach was used to understand potential impacts of Site activities on ecological resources at the Site. This evaluation included a comparison of concentrations of chemical constituents in sediment and surface water against available screening criteria to understand potential risks to receptors from Site related chemicals; an evaluation of the bioavailable fraction of metals using AVS:SEM to determine potential ecological impacts; an evaluation for the presence of habitat on-site that could attract ecological receptors,
- Technical lead in collaboration with a multi-firm team on an ecological risk assessment for a large marine terminal in the Patapsco River, Baltimore, Maryland. The ERA was designed to evaluate the potential ecological risks associated with exposure to chromium in the sediments and surface water in the Patapsco River. This ERA focuses on hexavalent chromium [Cr(VI)], trivalent chromium [Cr(III)], and chrome ore processing residue (COPR) constituents (aluminum, calcium, iron, magnesium, manganese, and vanadium).
- Technical lead for a Sediment Quality Triad (SQT) study consisting of chemical characterization in sediment, sediment toxicity and bioaccumulation testing, and benthic community assessments for the Lower Hackensack River, New Jersey. Chemistry data in sediment and porewater were evaluated based on the equilibrium partitioning approach and other published information to investigate the potential for chemical effects on benthic organisms and communities. Relationships were supported by laboratory toxicity and bioaccumulation experiments to characterize chemical effects and bioavailability. Benthic community results were evaluated using a regional, multimetric benthic index of biotic integrity and four heterogeneity indices.
- Project manager for a biological resources and wetlands assessment to ascertain the presence of sensitive resources on a property located in the California Bay Delta. The biological assessment included an evaluation of the presence or absence of special status species (including T&E species) within the property boundaries. The wetlands evaluation focused on historical waterbodies,

potential ponding areas and vegetation types that inform the potential presence USACE jurisdictional wetlands. The assessment included a complete document review followed by a multi-day focused site reconnaissance for evidence of key T&E species. The site recon also included the use of a Phantom 4 Pro Drone to catalogue topographic and vegetation data. The VARI (Visible Atmospherically Resistant) Index was used to highlight vegetation location, type and health.

- California Department of Fish and Game. Used SCUBA to conduct surveys of seafloor habitats and associated organisms, collected data on species-habitat associations, and studied ecosystem relationships along the California coast and Channel Islands. In a separate study, abalone surveys were conducted from Morro Bay to Davenport, CA to evaluate population trends of four species of abalone.
- Technical lead for a baseline ecological risk assessment at a Hudson River Manufactured Gas Plant Superfund Site contaminated with metals and polycyclic aromatic hydrocarbons (PAHs) to determine potential impacts to aquatic and terrestrial receptors. The BERA required the development of a sophisticated tissue uptake and food web model using equilibrium partitioning to estimate risks to wildlife and included multiple lines of evidence to evaluate ecological risks. Completion of the project in 2012 included regular communication and collaboration with EPA scientists and risk assessors regarding complex risk assessment issues at the site. A comprehensive review of the literature was required to compile available ecotoxicological data for the food web model.

## PUBLICATIONS

Wenning, R.J. and L.B. Martello 2015. Chapter 4. Levels and Trends of Dioxins, PCBs and Other POPs in Abiotic Compartments. *In: Handbook of Environmental Chemistry - Dioxin and Related Compounds: Sources, Levels, Trends and Fate in the Environment; Special volume dedicated to honor Dr. Otto Hutzinger; Alaee et al. (Eds).*

Wenning, R.J. and L.B. Martello 2014. Persistent Organic Pollutants in Marine and Freshwater Environments. In: Environmental Forensics for Persistent Organic Pollutants, 1st Edition.

Martello L, Sorensen M, Fuchsman P, Wenning R. 2007. Chromium geochemistry and bioaccumulation in sediments from the lower Hackensack River, New Jersey, USA. Arch Environ Contam Toxicol 53 (3), 337-350.

Martello, L. B., Richard J. Wenning, Mary Sorensen. 2005. Important Considerations when Evaluating the Ecotoxicity of Speciated Metals in Sediments. (September 2004; Submitted to Battelle June 2005 Conference, Baltimore, Maryland).

Martello, L.B., Wenning R.J., Von Burg, A., Pekala, J., Leitman, P., Sorensen, M. 2004. Trace Metal Contamination in Hackensack River, Passaic River, and upper Newark Bay Sediments (August 2004; Submitted to SETAC November 2004 Conference, Portland, Oregon).

Martello, L.B., Wenning R.J., Von Burg, A., Pekala, J., Leitman, P., Sorensen, M. 2004. Pesticide Contamination in Hackensack River, Passaic River, and upper Newark Bay Sediments (August 2004; Submitted to SETAC November 2004 Conference, Portland, Oregon).

Martello, L.B., R.S. Tjeerdema, W.S. Smith, .J. Kauten, D.G. Crosby. 1999. Influence of salinity on the actions of pentachlorophenol in Haliotis as measured by 31P NMR spectroscopy. Aquat. Toxicol. 41,229-250.

Martello, L.B., C.S. Friedman, R.S. Tjeerdema. 1999. The combined effects of pentachlorophenol and salinity stress on phagocytic and chemotactic ability in two species of abalone. Aquat. Toxicol. 49,213-225.

Martello, L.B. 1999. Ph.D. Dissertation, University of California, Santa Cruz, Department of Biology. The Combined Effects of Chemical and Natural Stressors on Phosphagen Concentrations and Nonspecific Immunity in Two Species of Abalone.

Martello, L.B., R.S. Tjeerdema, 1999. The combined effects of chemical and natural stressors on Chemiluminescence activity in two species of abalone. Aquatic Toxicol. (in press)

Moore, D.W., Diener, D., Anghera, M., Sorensen, M., Martello, L., Wenning, R.J. 2004. Weighing the Evidence: Delineation of Potential Sources of Toxicity Using Multiple Lines of Evidence (August 2004; Submitted to SETAC November 2004 Conference, Portland, Oregon).

Sorensen, M., Wenning R.J., Martello, L.B., Von Burg, A., Pekala, J., Leitman, P. 2004. Polycyclic aromatic Hydrocarbons Contamination in Hackensack River, Passaic River, and upper Newark Bay Sediments (August 2004; Submitted to SETAC November 2004 Conference, Portland, Oregon).

Tjeerdema, R.S., W.S. Smith, L.B. Martello, R.J. Kauten and D.G. Crosby, 1996. Interactions of chemical and natural stresses in the abalone (Haliotis rufescens) as measured by surface-probe localized 31P NMR. Mar. Environ. Res. 42, 369-374.

Wenning RJ, LB Martello, A Prusak. 2010. Dioxins, PCBs, and PBDEs in aquatic organisms. In: J Meador (ed). Contaminants in Wildlife. Second edition. Taylor & Francis, Philadelphia PA. (in press).

Wenning RJ, LB Martello. 2008. Dioxin ecotoxicology. In: SE Jørgensen, BD Fath (ed). Ecotoxicology. Vol. [2] of Encyclopedia of Ecology. Elsevier, Oxford UK. p. 921-930.

Wenning R.J., Martello, L.B., Von Burg, A., Pekala, J., Leitman, P., Sorensen, M. 2004. Polychlorinated dibenzo-p-dioxin, furan and biphenyl Contamination in Hackensack River, Passaic River, and upper Newark Bay Sediments (August 2004; Submitted to SETAC November 2004 Conference, Portland, Oregon).

# EXHIBIT B

**Moderator:** Good day, and welcome to the Lead Contamination Conference Call. At this time all participants have been placed on a listen-only mode. The floor will be open for questions and comments following the presentation. It is now my pleasure to turn the floor over to your host, Alec Vaughan. Sir, the floor is yours.

**Alec Vaughan:** Thank you, and good afternoon, everyone, and thank you all for joining us today for our call on lead cable contamination. My name is Alec Vaughan and I'm a Senior Analyst on the Special—Special Situations team at Capstone. Capstone is a policy analysis and regulatory due diligence firm, and because our clients invest in publicly traded securities, I would like to ask all participants to not discuss any non-public or confidential information, or any information regarding which you owe a duty of confidentiality to your employer. So, today's call will be focused on the Wall Street Journal's investigation into the telecommunication industry's usage of lead cables throughout the United States. We are joined today by Bill Verick, an attorney at Klamath Environmental Law Center with over 34 years of experience in environmental law. Bill also represented the California Sportfishing Protection Alliance in their lawsuit against Pacific Bell Telephone Company, a subsidiary of AT&T whose lead cables were found at the bottom of Lake Tahoe. Bill, I can quickly pass it over to you for a brief introduction on yourself and any other opening remarks that you may have.

**William Verick:** Sure. So, I graduated—after I graduated from law school, I worked for a downtown San Francisco law firm for a couple years doing mainly securities litigation, ironically. And then I did—I didn't set up the Klamath Environmental Law Center for a while but I—I did forestry defense, mainly trying to stop logging of old growth redwood trees on private land in California. And I almost went—became homeless doing that, because it was so unremunerative that I just couldn't keep doing it. So, I got into doing mainly proposition—California Proposition 65 enforcement of the right to know provisions of Proposition 65. I've been doing—that's been the bread and butter of my practice now for—since 1995. And what I've done with my colleagues is, among other things, several large industry-wide settlements that were a form of private rule-making, setting reformulation standards for things like lead in maple syrup, PCBs in fish oil supplements, lead in the insulation on computer and consumer electronic cords and things like that. I've also done a couple of cases involving just the Proposition 65 discharge to drinking water provisions, and I've done enforcement actions under the Resource Conservation Recovery Act, otherwise known as RCRA. So, that's, that's my bio.

**Alec Vaughan:** Awesome. Great. Thank you so much, Bill. And so, let's dive in first with some prepared questions that I have today, and then towards the end of the call I'll open up the line to give the audience a chance to ask any questions that they may have.

So first off, I think a natural place for us to start would be your work with the Lake Tahoe case. So, can you provide a bit of a lay of the land for everyone on the call regarding how the lawsuit came about, what provisions were used to bring the lawsuit, and how it was determined that the abandoned cables belonged to an AT&T subsidiary?

**William Verick:** Yeah. So, we had been interested—my colleagues and I had been interested in an abandoned cables case for a long time, and we hadn't even thought about Lake Tahoe. And we didn't bring one because we couldn't think of a way that we could access one of those cables and actually dig down to it, because most of the, most of what we were thinking about were submerged cables, actually, digging down to it and testing it to see if it had lead. And, you know, you have to have a certain amount of evidence to bring a case. If you don't, you can be sanctioned. So, what happened with us was there was this diver, Seth Jones, who is—plays a prominent part in the Wall Street Journal's articles, and he is a professional diver that does, you know work—very, lots of different kinds of work, and he's got a, he's got a thing about disposal of, you know, garbage into Lake Tahoe. You know, working, he finds piles of construction debris from when they built somebody's mansion on Lake Tahoe. And he found these cables, and did a little bit of read up on them and got an idea of what they, what they, what they were made of. And what the status of the cables were, they had been abandoned I think in the 1980s or maybe the early '90s. And to abandon them on the bottom of Lake Tahoe, which is owned—the bottom of Lake Tahoe is owned by the State of California. He had to get—they had to get a permit from the State Lands Commission. And the State Lands Commission said, okay, you can abandon them there, but you have to cut the ends off of them and pull the ends into the lake far enough so that they would be submerged deep enough that nobody could hit them with a boat and so that they couldn't be seen. And so, they were left there. And so, they were abandoned. And so, Seth cut like about a six-foot section of this four-inch cable that probably weighed 200 pounds and retrieved it and brought it—cut a foot of it off, and took it all apart, and weighed the various components, and determined that every foot of that cable contained three pounds of lead. He brought the rest of it to us, and we got a kiddie swimming pool and filled it with Lake Tahoe water and let the cable sit in it for like a day, and then we took a water sample, and sent it off to a lab, and had astoundingly high levels of lead in the water. So, we had the evidence that we needed to bring the case. So, we were pretty certain that it was AT&T or AT&T subsidiary whose cable it was, because of the size of it. And when it was put in, AT&T basically had almost a complete monopoly on telephone service in California, with a few minor exceptions. And so, we went to the State Lands Commission and we did a Public Records Act request asking for any communications with Pacific Bell Telephone Company and the State Lands Commission regarding telecommunications cables on the bottom of Lake Tahoe. And we got a response to that, and that showed that the cables were Pacific Bell's. And

so, we had what we needed to—what you have to do under both Proposition 65 and RCRA, the Resource Conservation Recovery Act, is you have to send notice letters to public authorities. And with, under Prop 65, you have to wait 60 days, and under RCRA you have to wait 90 days. And if a public agency wants to take the case, well then you can—you don't get to run the case, but you can come along for the ride. And neither public—no public authorities wanted to take the case, and so we filed the case in Eastern District of California in Sacramento, and drew a judge who was pretty unfavorable to Prop—to environmental concerns of any sort, which, you know, that was, that was in the background of everything that we did on the case. We knew that we had a judge that was not good for us. So, we negotiated with AT&T, and they agreed to take out the cables. And so, we reached an agreement where they would do an evaluation. They would figure out how much it was going to cost, and if it was going to cost less than $1.5 million they would take them out. And if it was going to cost more than that, they could refuse to take them out, and then we could just continue with the lawsuit and try to make them take it out. And so, they went through two years of permitting, and it takes a long time to get all the permits that you need, especially on some kind of an icon, icon like Lake Tahoe. And that's just about played out now. The permits have been issued, and AT&T is going to begin removing the cable right after Labor Day.

**Alec Vaughan:** Great. Thank you. Really appreciate you giving a good lay of the land there and background on the Lake Tahoe case. So, one of the things that we're all trying to think through here is whether or not it makes sense from an environmental perspective to just leave some of the lead cables in the ground or in the water, or if it's better to have all of them removed. So, curious if there was any work done in the Lake Tahoe case to determine whether removing the cables would actually cause more contamination or if removing the cables was seen as favorable.

**William Verick:** Yeah, well, in those—in these kind of cases, and we've done a bunch of cases involving contamination—the polluter always claims that it'll be worse if we try to do anything than if, anything that costs us money will be worse for the environment than if, if it didn't cost us money. And so that's an argument that they use, and it's not a completely implausible argument. The cables in Lake Tahoe, I don't know if you—I mean, there are some pictures of them in the Wall Street Journal studies, I mean stories, and they're just laying on the lake bottom. They're not buried or anything like that. And so, I mean, the argument can be made that moving the cable might cause some sediment to come off of it, and so it would cause momentary turbidity in the water, and we just laughed that off. And I don't think—we don't think that that was a serious argument. There are, a lot of the kind of argument that you're talking about, though, is really—would really be site-specific. Like what all, what all is there in addition to the cable? The notion that you would get, make it worse—things worse, is that if you were

to dig it up, and contaminated dust around it would get all over the place, and spread and contaminate people, and contaminate the workers. But for the most part, these cables, the lead part of these cables is deep inside the cables. And there's, you know, lead—some of the data that the Wall Street Journal came up with showed that there is lead contamination of the soil right around it, and there are tons of ways of dealing with that. This is not a new thing, digging things up. And if there's contaminated soil, digging the soil up and sending it off to a landfill, it may not make sense to dig the soil up and get rid of it, depending on what the level of lead contamination is and where it is. If it's in water, it probably is more of a concern. I think under the law, under RCRA, people could be made to clean it up, to dig it up, and clean up the contamination regardless of where it is, because the standard under RCRA is if something may, and the word is may, cause an imminent and substantial endangerment to human health or the environment. And the environment includes, you know, algae in Lake Tahoe, and sort of freshwater plankton, and stuff like that. So, the standard is pretty, is pretty strict under RCRA. Generally, the approach taken by government agencies is to not do that. It's been fairly permissive, and the agencies don't want to have that kind of a nightmare on their hands.

**Alec Vaughan:** Interesting. So, just to clarify quickly, you're saying under RCRA, that would mandate a cleanup of not only the lead cable, but also the contaminated soil, water, that is surrounding the cable. Did I understand that correctly?

**William Verick:** Yeah. They don't clean up contaminated water unless it's, like, isolated somewhere. How could they clean up contaminated water in Lake Tahoe? Lake Tahoe is, you know, over 1,000 feet deep in places and it's, you know, it's a giant lake. And the lead spreads out into the lake, and as soon as you get in there and start trying to do anything in an area where you might have an increased—temporarily increased level of contamination, you're just going to stir up the water, and it's going to mix it in with the rest of the water of Lake Tahoe. That, that kind of cleanup would definitely be more destructive than it would be worth, because if you just take a water sample from some random place in Lake Tahoe, you're going to find virtually no lead in it. So, as much of the lead that has soaked out of that cable as has done, lead levels, overall lead levels in Lake Tahoe are super low.

**Alec Vaughan:** Got it. Got it. So in the settlement with AT&T, I'm curious, was the recycling or the recovery value of the lead cable used to offset any cleanup cost considerations?

**William Verick:** Well, I would, I would, I would think so. It's going to be recycled, and the information that we have from recyclers is that those cables are really valuable and desirable to recycle. Now, we don't—you know, our negotiations with AT&T, we took

that into account. We just presumed that that would be something that they would do, and we presumed that they're going to, you know, accept bids from recyclers to recycle that stuff once it's taken out of the lake. In other places we know, in places like Ohio, some of these cables have been taken out and recycled. And the recyclers pay for the privilege of taking the cables out. They're worth enough to do that. That may not be the case in all places, but the materials definitely are valuable, and, and AT&T is mighty rich, but they're not rich enough that they could just, like, give that stuff away. So, we presume that they are going to make—you know, get some revenue from that, whether it completely offsets the cost of the cleanup. I kind of doubt that, but it'll come close. And I mean, I think the, the biggest chunk of cost of the cleanup in Lake Tahoe is the permitting, not the actual removal of the cable. Getting—you know, hiring the consultants that you need to deal with the Army Corps of Engineers, and like 18 different state agencies, and jumping through all the hoops that each one of them want you to do, and all the, you know, all the fancy documents that have to be produced and all that, I mean that must have cost a lot of money. I mean, I'm on the public—I'm on the board of a public drinking water agency, a local agency. You know, when we get a grant to replace like a mile of water line, the grant includes, you know, like $50,000 just for the, to pay for the permitting compliance that we have to do to be able to do that. So to do, to remove the cables, the permitting, and you're going to have to get permits to do that, that's going to be expensive. But I don't know how much it would be in that case.

**Alec Vaughan:** Do you think the permitting issue is exclusive to California or do you think other states have similar kind of onerous permitting rules that would make this more expensive?

**William Verick:** Oh, I think a lot of, I think a lot of states have those permitting rules, and the Army Corps of Engineers is nationwide. So, if you're dealing with water, any kind of navigable water, so where these things go under the Great Lakes, for example—and I'm sure they crisscross Lake Michigan in multiple places—where they go under the Mississippi River, or any of the major rivers, across San Francisco Bay, across Long Island Sound, across Chesapeake Bay, Biscayne Bay, you know, you're going to have to get permitting from, permits from the Army Corps of Engineers at least. And, you know, and the permitting model that is used is, what happened is California passed the California Environmental Quality Act, and then the federal government passed the National Environmental Policy Act, which is patterned after the California Environmental Quality Act. And then lots of states passed their own similar Environmental Review Acts patterned after NEPA. And so, not all states have those provisions, but a lot of them do.

**Alec Vaughan:** Got it. Got it. Okay. And one other thing I want to touch on, too, in the Lake Tahoe case is what factors of the Lake, of the Lake Tahoe case were impacted by

the fact that Lake Tahoe is a source of drinking water? Like, how could the case have gone differently if it was a lake that wasn't being used for drinking water?

**William Verick:** Well, in California, the State Water Resources Control Board has passed a resolution that says that all surface fresh water in the state is considered to be a source of drinking water. That means that it can be used for drinking water with a few exceptions. If it's super polluted already, it's not. And if it's somewhat brackish, it's not. But, you know, any spring that's bubbling up, if it runs off of somebody's property, road—water running in a road ditch is considered a source of drinking water. So, Proposition 65 applies to sources of drinking water, the discharge to drinking water provisions of that apply to drinking water. And so that would—that means that in California, that provision could be used, you know, for the Napa River, for the Sacramento River Delta, the Sacramento River, the San Joaquin River, the, you know, the Klamath River, and, and any kinds of, like, freshwater wetlands that the cables might be running through as well. I'm not sure that anybody but us would think about bringing a case like that. But we're certainly thinking of it.

**Alec Vaughan:** Got it. Got it. Okay. And I'll ask a pretty open-ended one here as we kind of shift gears towards the current situation. So, just wanted to gauge if you had any reactions or opening thoughts that you'd like to kind of share after you read the Wall Street Journal's investigative piece.

**William Verick:** Yeah. Well, one of them was humility, because, you know, we litigated the Lake Tahoe case that was kind of brought to us on a platter. And the Wall Street Journal went out and spent a lot of time and did a lot of digging, and found out stuff that we wish we had known when we were bringing the case. We didn't go to Lake Tahoe and take water samples near the cable. They did. And we didn't take samples of soil near cables. They did. And, you know, until this article came out, I didn't realize that they were, these leaded pipes, smaller ones, are—had been suspended from telephone poles that run through residential neighborhoods. I didn't know, I didn't know that was the case. So yeah, I thought—I was in awe of the job that the reporters for the Wall Street Journal did. They deserve a Pulitzer, in my opinion.

**Alec Vaughan:** Yeah. Yeah. There's definitely some thorough reporting on their end. So, look—taking a look at what can be done moving forward, there seems to be a few different authorities the EPA has at its disposal to mandate the telecom providers to clean up the lead cable. So, one that we touched on is RCRA, or the Resource Conservation and Recovery Act. One could be the Comprehensive Environmental Response, Compensation, and Liability Acts, also known as CERCLA, or Superfund. And then there's also the Safe Drinking Water Act. So, I was curious, do you have any

insight into which of these are the most likely avenues the EPA could take for remediation?

**William Verick:** Well, I mean, if the, I mean, if the EPA decided to do something, I would think that they would be crazy not to use all of those. You're not, you're not limited to only one. You can use all of them. You throw, I mean RC—you have to understand that RCRA and CERCLA are complementary. They're not-- it's not one or the other. One of them is intended to provide the, the power to get a court to order somebody to clean something up. That's RCRA. And then CERCLA is focused on who has to pay for the cleanup. And, you know, when it was first passed, there was a tax on chemicals. And so there was a fund that was generated, and so the government had money that was generated that way to help pay for the cleanups. That's why it was, part of it was called cleanup. But I don't think—that's not that relevant anymore. CERCLA is used—I can give you a couple of examples. CERCLA is used even in—well, it's used by state agencies. For example, when the state agency has brought an action—in California it would be the Department of Toxic Substances Control. And so, there was a battery recycling plant in Southern California that, you know, went on for years, it was a smelter. And it contaminated a vast area of the poorer parts of Los Angeles with massive amounts of lead. And so, by the time the agency finally got around to trying to get them to clean it up, you know, a lot of contamination had happened. So, Exide just basically went belly-up. It went bankrupt. It got relieved of its obligations to do any cleanup or pay for any cleanup by the bankruptcy court. And it ceased to be—in October of 2020, it ceased to be—it ceased to exist as a functioning business entity, that's what it said. And so, then what happened is the Department of Toxic Substances Control used CERCLA to go after the people who brought the lead to the smelter, the people who transported it to the smelter, and, you know, tried to get them to have to pay for it too. And, you know, even a company like AT&T would, would be really, really, really, really challenged to pay for a cleanup that has contaminated, you know, several square miles of Los Angeles with toxic levels of lead dust. And so, you know, they're going to do cleanups here, and they're going to do a little bit of cleanup there and they're going to leave large areas, you know, contaminated, and that's just the way it goes. So, I would expect that probably the biggest thing that I learned from the Wall Street Journal article was that in 1956—by the year 1956, AT&T was using 100 million pounds of lead a year, and that it had its own smelters. And a lead smelter is way different from these cables. Lead smelters cause massive Superfund sites, which is what the Exide plant in Los Angeles was. There was a big lead smelter up in a place called Wallace, Idaho, up in the panhandle of Idaho, that contaminated, like, you know, 50 miles of one of the most beautiful wild and scenic rivers in the whole United States, and all the communities along, along the way. And it was the same thing. The smelter company went bankrupt, and then it was the government left picking up the pieces,

trying to find other people that they could stick with the cost as well, and business entities declaring bankruptcy to get out of having to pay for it. So that's, that's how things tend to work. You know, if you're interested in what's going to happen to AT&T's stock price, and, you know, the alternative—the way that they might deal with the smelter thing is to declare bankruptcy. Well, what does, what does that do you know, to people who hold common stock? I don't know that that's going to happen. Nobody's gone after AT&T's smelters yet. But I think some people are thinking about it.

**Alec Vaughan:** Mm-hmm. So, I guess the natural extension to what you were talking about is, could AT&T try to pin some of these costs on maybe some of the cable manufacturers? Would that be something that wouldn't surprise you?

**William Verick:** Yeah. Under CERCLA, you know, there are things called PRPs, potentially responsible parties. **I**t's basically anybody who, who touched or concerned the offending real estate or objects. And so, we did some cases here in Northern California involving wood treatment, chemical pentachlorophenol where, you know, Louisiana Pacific, Georgia Pacific, Pacific Lumber Company, major, you know, Fortune 500 companies, were using this chemical to spray on to lumber that was being used to build homes. And every single one of these mills that used it has a toxic plume underneath it. And what happened with a lot of these places, one that, one I can tell you about, in particular, because I know a lot more about it is, the company went bankrupt. The company that owned the, the company that owned it went—the mill went bankrupt because of this. The banks refused—the banks that held the mortgages on the property refused to, to foreclose on the mortgage because they didn't want to wind up with a deed granting them title to that property because then they would be on the hook. And what wound up happening is the widow of one of the guys who was one of the owners, they wound up taking her house. So, it came down to that. And that's, that's the kind of thing that can happen. That litigation is, you know, it involves rooms full of lawyers where junior associates are set to sit around a conference table, while, while, you know, while a deposition is being taken. And, you know, you have like 25 lawyers sitting in there, each one of them billing. So, that's the kind of thing that happens when they're fighting over who winds up having to pay for it.

**Alec Vaughan: A**nd so, I guess, understanding the mechanics of that a little bit, if EPA orders a cleanup, what is kind of the protocol for paying for it? Is it EPA initially pays for the cost of it, and then whoever is a PRP, or potentially responsible party, will then reimburse EPA, is that how it works?

**William Verick: I** think it's a fairly—I don't think there's any set model for that. I mean, I have to, I have to say that I don't practice under CERCLA. I mean, I know about it, and I

know about some of the implications of it. My experience is that the EPA might want to try to order a company to do something, but a company, if it's going to cost the company a lot of money, the company is going to say, so sue me. And that's what winds up happening. And so, the litigation takes years, and nothing gets cleaned up while the litigation is happening. And the companies try to, you know, compartmentalize all of their environmental liabilities into some subsidiary, and then have that subsidiary declare bankruptcy. There's all that kind of maneuvering that goes on. And they're all suing each other. And it's a full employment act for lawyers, that's for sure.

**Alec Vaughan:** **A**nd I know, so most of your experience—

**William Verick:** **I** mean, wait, let me just add to that, which is, since the days—since the CERCLA fund, the cleanup fund has—I don't, I don't think that was renewed by Congress when it, when it came up. And the tax on chemical, the chemical industry is not in place anymore. And so, the EPA doesn't have the money, they don't have the money appropriated, you know, Congress doesn't like, just, appropriate them, like, you know, $25 billion a year to do cleanups. They have to, they have to litigate that, and force the private companies to come up with it. And if it's bad enough, I mean, if it's killing people, if kids are dying, and fish are going belly up, then the government might, might clean it up, but I've never seen that happen.

**Alec Vaughan:** Got it? Got it. Okay, super helpful. So, I've got a few more prepared questions here. But given where we are on time, I'd like to give our audience a chance to ask any questions they may have. So, operator, can you please provide instructions for the audience so they can ask questions?

**Moderator:** **C**ertainly. At this time, we'll be conducting a question and answer session. If you have any questions or comments, please press *1 on your phone at this time. We ask that while posing your question, you please pick up your handset if listening on speakerphone to provide optimum sound quality. One moment while we poll for questions. Your first question for today is coming from Ian. Ian, your line is live.

**Ian:** Hi. So, I recognize that it's self-serving for the folks that installed these cables to be against remediation. But I guess how—it just strikes me that pulling a cable, dragging a cable off the bottom of Lake Tahoe is probably going to release a lot more lead into that environment. Is that, so is that actual—are they just going to yank it out of there? Or how, how do you go about removing that such that you're not really exacerbating the problem? And can you sort of extrapolate that to remediation costs elsewhere?

**William Verick:** Yeah, so these cables, the ones that, unlike Tahoe—and I would think that most of the buried cables that have lead in them—what they are is, there is a lead pipe that's about two inches in diameter. The walls of it are about a quarter-inch thick. And running through that are these pairs of these thin wires that are copper wires, that are insulated. And they're twisted, and they go through, and then around that is like some kind of like a tar, bituminous-like sealant. And then on top of that—and that's, and that's like half an inch thick. And then on top of that are these quarter-inch steel rods. And you can see them in some of the pictures in, from the Wall Street Journal's article. And those wrap around the outside, and they're, you know, they're a quarter-inch in diameter, so they don't just rust out and fall apart. They're, they're actually in, in fairly good condition. And those are on the outside of, of that, so that, they're also protecting the cable from, you know, most of the kind of insults that it might get. And then, on top of that is burlap soaked in bitumens like tar, tar-soaked burlap to try to keep the water from getting in. But that, that stuff is falling apart. And , when you pull the cable, when you manipulate the cable, it's not going to wind up causing that much lead to come out. And, you know, what AT&T had to do for, to get the permit to take the cable out of Lake Tahoe, they had to have a doc—they had to put together a document that showed basically, like every 100 feet, what they were going to be doing over eight miles, and how they were going to be lifting it up very carefully, and then get it, once it's on board a ship, cutting it. And so, none of the cuttings are falling into the lake, and all the measures that they're having to do to take that. And then when the boat gets really loaded, then that's transferred, you know, to a barge that takes it to the dock. So, they're being very careful. And when it's on land, it's even a lot easier, I think. You just—they're not buried that deep, and you dig around them, and you lift them up, and you cut them. And most of them, I suspect, are along public right-of-ways, public thoroughfares. So, along Highway 101 in California, along I-5, along Highway 99, along railroad right-of-ways, because, you know, that's just, just makes sense that they would put it there rather than having to negotiate with individual property owners to run it across their property.

**Moderator:** Your next question for today is coming from Louis. Louis, your line is live.

**Louis:** Hi, thank you. I just wanted to know if you had any thoughts on how this could either expand or be limited because, I mean, a lot of this stuff was laid in the, you know, '30s, or, I mean, in theory, the original American Bell, I think was founded in the late 1800s. And then it's been, you know, broken up and turned into a lot of different things over the years. How does that, you know, how does that kind of translate into the modern incarnation of AT&T or, you know, any other kind of telecom carriers? Wouldn't at some point there be—well, I guess I'll just leave the question at that. Thanks.

**William Verick:** **Y**eah, the, obviously, the age of the cables and where they were put does—would tend to limit the personal injury liability that AT&T may have been responsible for because statute of limitations are like a year, three years, maybe. And the real big exposures from these cables were caused to the people who were installing them and to their families. And so that's not really happening anymore. But if the cables are bleeding lead out into the environment, they are an imminent and substantial endangerment to the environment. And to that extent, there is no—under RCRA, there is no statute of limitations. And under CERCLA, you can go after people who, you know, three ownerships back, you can go after them. You can, you know, you can get anybody who was involved, anybody who owned the land, even for a while and then sold it, all the people who helped bring the lead to the place, the people who installed it, the people who abandoned it, the people who owned it. And so, to the extent that government is going to be—have an appetite for doing something like that, well, that remains to be seen. I think whether, yeah, I just—I'll be interested to see if the government wants to do something about that. But if they wanted to, you know, the legal theory is there. You know, whether a judge, even though the law may be clear, would want to, you know, subject AT&T to that kind of financial pain and anxiety, that remains to be seen. Judges tend to be from the same class as the people who are the management of companies like AT&T. And they have, you know, the same kind of ideology and values as those people do. So, they tend to identify with them much more than somebody who's a worker or somebody like that who would get exposed. It's not that big a deal to them. Their kids aren't going to get exposed.

**Moderator:** **Y**our next question for today is coming from Phillip. Phillip, your line is live.

**Phillip:** Great, thank you. Yeah, my question was, obviously, in the specific case you're talking about, it was a lead-screened cable. But, you know, we've got a legacy of all sorts of telecommunications cables, you know, plastics, PTFVs, petroleum jelly, all sorts of other, you know, less serious contaminants. But the general telco strategy has been, you know, where it's inconvenient or expensive to remove, they've done exactly what AT&T did in the situation you're talking about, which is just they essentially abandoned the asset in place. Do you think that these other materials, and that general strategy, will come under broader threat as a result of the Journal's campaign?

**William Verick:** **Y**ou mean other, other materials like fiberoptic cables and things like that?

**Phillip:** No, other materials in abandoned—so these are the old copper cables that are being replaced by fiber. So, there are other less hazardous materials in those cables. And then also, just as a result of that, the general strategy of, you know, cutting the

ends of the cable and just abandoning it in place. Do you think that'll become more difficult for the telecommunications players as a result of the Journal's campaign?

**William Verick:** Huh. I don't know if it will become more difficult. My experience is that the real money to be made by private lawyers and by private plaintiffs on this is in personal injury. And personal injury cases to be brought would be very difficult. And to bring a case to force an industry like the, like the telecommunications industry to dig up toxic stuff that they've buried, you know, that's a public interest kind of case. It's not a case—you know, you can get, there's a fee shift, there are fee shifting statutes, so lawyers can get paid fees, but they're not going to get like one third of some giant, you know, settlement that's going to be done. And so, the kind of law firms that, you know, that are, that practice in the environmental field that are similar to the securities litigation folks like Bill Lerach used to be, and Elizabeth Cabraser and people like that, they're—they don't do these kinds of cases. They don't do cleanup cases. It's a public interest thing, and so it's a much smaller and less well-financed group of private lawyers who are, like me, who are doing it. And it's—because you're not going to become a millionaire doing this. You get paid, you know, what your going hourly rate would be times the number of hours you've worked if you win, and that's it. And so, it's people like us and public agencies that will be doing it. And the public agencies are not very well-financed anymore to do this kind of litigation. They just—and the people who work from them, for them, the public agencies, are somewhat demoralized, because of the number of times that they've worked up cases that they wanted to bring and their bosses have told them that they can't do it. And so, there's not a lot of, there's not a lot of—in my opinion, there's not a lot of pressure on agencies to do anything about this. And there's and they're not inclined to want to do anything about it. They don't like to be told about contamination. They don't want to hear about it. And, you know, there's always going to be some district attorneys out there, maybe an attorney general in one or two states that want to make a name for themselves and really are concerned about the environment who might bring something. But I don't think there's going to be a rush, a flood of public interest lawyers or public agencies that are going to be jumping on a bandwagon and trying to flog AT&T.

**Moderator:** **Y**our next question is coming from Michael. Michael, your line is live.

**Michael:** You kind of addressed the question in what you just said in terms of maybe public agencies are hesitant to bring action quickly to AT&T, but what do you think AT&T and, like, the Verizons of the world are doing, you know, right now? Like, you know, the article was pretty damning. Do you think that it's going to change anything about how they spend money or do business in the near-term? Or is it going to be, like, a non-event in terms of how they run their businesses today?

**William Verick:** You mean beyond the cables? Are you asking me whether I think that the embarrassment that they were caused by the Wall Street Journal article will make them be more environmentally sensitive? I doubt that. You know, one of the things that I saw in the Wall Street Journal article was that AT&T—it looked like AT&T was, or one of their executives was actually floating an idea for how it could be dealt with, that the government would pay for a bunch of the cleanup, and they would pay for some of it, and some of their other contractors and stuff, people who were involved, would come up with some money too and they would, you know, reach some kind of deal that would take care of everything forever. And, you know, just like the, the oxycodone litigation let the Sackler family off the hook, all those guys will be let off the hook too. And I think that that's what, I think that that's what AT&T is signaling that they would be willing to go along with.

**Michael:** Right. So, it's not like they're preparing for, like, a huge settlement cost, or if they lose a lawsuit, it's going to cost a lot of money that could affect their, like, near term spending plans elsewhere in the business. They probably think that there's a way to solve this issue without impacting the rest of their business, or how they're planning to, like, spend.

**William Verick:** **Y**eah, well, AT&T can afford, you know, as many lawyers as it wants until the cows come home. And they can delay this for 10,15 years before they have to do anything other than, you know, pay a bunch of lawyers. And, you know, the people that they're hiring are costing them $800 to $1,000 an hour for people who are partners. And, you know, it'll cost them, it could cost them, you know, $10, $15 million a year. But that's nothing for AT&T, they'll just say to themselves, we need 10 to 15 more, million more dollars per year, let's just jack up the phone, the, the cell phone rates, and they basically have a monopoly. So why can't, why wouldn't they do something like that? I think they're more likely to do that if the government insists on anything that's going to cost them a lot of money. They'll just delay it for as long as, as long as they can. And that can be for a long, long time.

**Michael:** Got it. That's helpful. Thanks.

**Alec Vaughan:** Bill, I've got a number of quick questions sent to my inbox here that I want to try to squeeze in as many as we can before our time expires at 1:00 pm. So, I'll just go ahead and read off one by one, and you can give a quick reaction to. So, first one is just seeking to clarify what happens if a company is sued and declares bankruptcy. And if the company emerges from bankruptcy, does liability stay with that emerged company?

**William Verick:** Well, it all depends on what the bankruptcy court orders. But generally, you know, ever since John, Johns Manville sort of set the, the standard for that, you know, when, with the asbestos litigation. They declared bankruptcy, and then they got off the hook. They didn't have to pay anything more. They came out of bankruptcy, chapter 7—I mean, chapter 11, I believe, and, you know, stayed in business. So that can happen. Exide wound up going belly up because they had smelters like, like 15 states, it wasn't just California. They went belly up and they were just, they went—I think they went through chapter 7 and they were liquidated, and ceased to be a business entity anymore. So, it you know, it depends, and it depends on the bankruptcy trustee, and it depends on the bankruptcy judge, too.

**Alec Vaughan:** **G**ot it, and then I'll try to fit in one more quick one. And it's just a question about the precedent of lead pipes which are continuing to be used fairly broadly, even for drinking water, and why are the telco cables going to result in a large liability when lead pipes are still pretty fairly broadly deployed?

**William Verick:** Well, the only reason is that, I mean, I think that the personal injury that's caused by lead pipes, what happened to the kids in Flint, just alone, if, you know, could put any, even maybe even put AT&T out of business, what they could recover for what was done to them. That generally, you know, all lead water pipes are way worse for the environment than, than what AT&T's got going because people are drinking the water that's flowing through them. And they're sitting in the soil too, just like AT&T's lead pipes but people are drinking from them. So, but the difference is that AT&T is a private company and it's like one of the deepest pockets on the entire planet. You know, the city of Flint—what the city of Flint is, you know, probably has a budget the size of what AT&T spends on their Christmas party.

**Alec Vaughan:** **Y**eah, yeah. Understood. And why would you—this is another email question that we've gotten.—why would you suspect that EPA would want to bring this kind of a case even to begin with? Or is that the sense that you're getting, that EPA does want to bring a case like this?

**William Verick:** Well, I mean, I can't speak of EPA like it's a person. It's a, it's an organization that has its own internal politics, and it's governed by external politics as well. You know, Donald Trump's EPA is way different from Joe Biden's EPA. And the people who are the political appointees, they're all very sensitive to, you know, their funding base, their funder, the funder base of their bosses. And AT&T, I'm sure, is smart enough to give money to both parties. So, I mean, let's face it. That's, that's how politics works in America. And the EPA is a political animal. And the people who get hired there

get hired for certain reasons. And the people who have—who are the political appointees in there are, are appointed there for certain reasons. And one of them is that they certainly have to take into consideration anything that a major company like AT&T thinks about something that they're about to do. And so, there may be people in positions of power in the EPA that want to do it, that want to do something like that and they might actually do something like that. But—so you have to, you have to, if you want to figure out what AT&T, what the EPA is likely to do, you actually have to look at who's in charge, and who's in charge of the divisions that would be involved in this kind of an enforcement action, and what their track record is. And I haven't done that work on this. But that's what I would do if I was trying to figure that out.

**Alec Vaughan:** Yeah, I think you made a lot of really, really great points there, Bill. We've got, we've got just one more question. I know you've been very generous with your time today. So, hopefully, we can squeeze this last one in quickly. And I think this is a good one. So, when would EPA kind of require this cleanup under certain circumstances, right? So, for example, if the cable is in a lake or in a water area and clearly leaking, then you'd have to clean it up. But if a cable is just buried somewhere, and abandoned, and not near any drinking water, then what would EPA do with that? I guess, like, what is kind of the range of mandates that EPA can, can offer here?

**William Verick:** Yeah, well, AT&T could, I mean, EPA could do, could make them clean it up even when it's not, you know, leaking in a lake, if they wanted to. But obviously, no—you know, EPA or none of the state agencies that are responsible for this kind of thing have the budget or the inclination to be hard-ass about this. And so, they're more likely to respond to public pressure to do something. And that's going to be, you know, that's going to be, that's going to depend on the location, who is being exposed and hurt by this. You know, if it was poisoning executives on a golf course, it would be, you know, it would be more likely to result in them doing something about it than if it's just buried in some residential neighborhood and nobody's really getting exposed to it. And they're not going to—I would bet my eye teeth that they're not going to order AT&T to rip up every, you know, every mile of this cable nationwide. That's just not going to happen. And private enforcers like me, we're only going to bring the best cases that we can because they're plenty of them out there, and, you know, it's not something's that's subject to like cookie cutter cases that you can do everywhere. So, I suspect that it's not going to be a major drain on AT&T's finances. I think it's something that they can handle, and they have the if—they have the political skills and connections to shape the various outcomes that are likely to happen.

**Alec Vaughan:** Got it, got it. Perfect. Well, that's the end of our Q&A session and the end of our conference call. Bill, I want to thank you again so much for hopping on the

phone with us today. We really appreciate you taking the time. And for everyone else who's on the phone, thank you so much for joining us today. This has been great. So, hope everyone has a great day and take care.

**William Verick:** Thank you. Good-bye.

**Moderator**: Thank you. This concludes today's conference call. You may disconnect your phone lines at this time and have a wonderful day. Thank you for your participation.

[END FILE]

CERTIFICATION

I, Brian Echon, certify, under the laws of the State of California, County of Los Angeles, that I am a professional transcriber/reviewer and I am one of two transcribers who transcribed and reviewed the digital audio file entitled: "Lead Contamination Conference Call – 7-18-23" to the best of my ability. I am a subcontractor for Keystrokes, a transcription and translation company located in Santa Monica, California.

Date: 7/22/23

bae

CERTIFICATION

I, Matthew Allbritton, certify, under the laws of the State of California, County of Los Angeles, that I am a professional transcriber/reviewer and I am one of two transcribers who transcribed and reviewed the digital audio file entitled: "Lead Contamination Conference Call – 7-18-23" to the best of my ability. I am a subcontractor for Keystrokes, a transcription and translation company located in Santa Monica, California.

Date: 7/22/23

# EXHIBIT C

Bureau of Toxic Substance Assessment
New York State Department of Health

# Sampling Report for Lead in Soil at Temple Park Playground and Adjacent Areas Dutchess Terrace and Market Street Wappingers Falls, New York July 27, 2023

## Summary

On July 13, 2023, staff from several New York State agencies participated in sampling of soil for lead at the Temple Park Playground and adjacent areas in Wappingers Falls, New York (Figure 1). The New York State Department of Health's (NYSDOH) Center for Environmental Health initiated the sampling in response to a July 9th Wall Street Journal (WSJ) article reporting elevated lead levels in soil beneath telecommunication cable lines at the park (Pulliam et al 2023). Others involved onsite included staff from the New York State Department of Health's Metropolitan Area Regional Office, the Dutchess County Department of Health, the New York State Department of Environmental Conservation's (NYSDEC) Division of Environmental Remediation and the Village of Wappingers Falls Department of Public Works. Multiple X-ray fluorescence (XRF) screenings and the results of twenty-five discrete surface soil samples taken at the Temple Park Playground and adjacent areas do not provide evidence for excessive or widespread lead contamination in soil due to the telecommunication cable lines and do not suggest a significant exposure or public health risk for people involved in recreational activities at this location.

## Site Observations

On arrival at the site, staff noted a line of flags with unique identifiers, and subsequent holes in rows of three running the entire length underneath the Market Street and Dutchess Terrace telecommunication cable lines (Attachment 1 photos 2-7). According to Village of Wappingers Falls staff, these flags appeared two weeks ago, and their origin is not clear. During sampling activities, a neighbor living across the street from the park confirmed this timeline, specifically, that the flags and their corresponding holes appeared two weeks earlier and also that the WSJ was present six weeks prior. A variety of electrical and telecommunication overhead lines were seen running the perimeter of the park along Market Street.

## X-Ray Fluorescence (XRF) Screening

NYSDOH staff used a Viken PB200i XRF to conduct an initial screening of the lead in soil at the playground and surrounding areas to evaluate if soil readings from any areas reflected significant gradients in lead content. Background XRF readings were taken from across Market Street directly across from the playground, across Market Street next to the Wappingers Falls Highway Department building, and from an area that was previously used as a soccer/sports field. Readings were also taken from areas directly underneath the telecommunication cable line as well as five and ten feet to the south of the line in the direction of the playground. None of these areas potentially influenced by lead in the telecommunications cables showed XRF results that differed markedly from background area readings.

**Soil Samples**

Lead is naturally occurring in soils, and typical lead soil levels range from 50 to 400 parts per million (ppm) (USEPA, 2023). NYSDOH staff collected "background" soil samples (0 – 2-inch depth) from areas where lead soil levels were unlikely to be influenced by the telecommunication cables (30 to 150 feet from where the cables were present), as well as numerous samples to evaluate lead soil levels under the cables and adjacent playground. All soil samples were geo-coded and sample locations are shown in Figure 2. Three "background" samples were collected, one from the former soccer field that is part of the park but at distance of approximately 150 feet from overhead cables (Sample G3), another from across Market Street directly in front of the playground in soil between the road and sidewalk approximately 30 feet from overhead cables (Sample G1), and one from across the park on Market Street in soil located near the road and next to the Village's Highway Department approximately 300 feet from overhead cables (Sample G4). An additional sample was collected underneath a telecommunication cable line that was closer to the ground across Market Street behind the "Industrial Park" sign to see if the closer proximity to the ground impacted the lead level in the soil (Sample G2).

NYSDOH staff collected surface soil samples (0 – 2-inch depth) with a focus on evaluating if the areas directly underneath the telecommunication cables had increased lead soil level, and whether other areas near the cables were also being affected, that would indicate a lead exposure concern for people using the park (Figure 2). A total of ten soil samples were collected along Market Street directly underneath the cable line running along Market Street on the perimeter of Temple Park (Samples A1 -A10). Six samples were taken five feet to the south of the telecommunication cable line (Samples B1 - B6), three of which were in the playground (Samples B1 - B3). Four samples were taken ten feet to the south of the telecommunication cable line (Samples C1 -C4) two of which were in the playground (Samples C1 and C2). One additional sample was collected from the playground to address bare soil present in the play area (Sample D1). See Attachment 1 for photos of the areas sampled (photos 9 to 11). All twenty-five soil samples were submitted to NYS's Wadsworth Laboratory for flame atomic absorption spectrophotometry analysis using EPA method 7000B. Results from collected soil samples are presented in Table 1.

**Table 1: Lead Surface Soil Sampling Results for Temple Park and Adjacent Areas, Wappingers Falls, New York**

| Sample Number | Sample Location Description | Lead Concentration (ppm) | Notes |
|---|---|---|---|
| A1 | Market St. and Dutchess Ter. Intersection next to utility pole (under cable) | 288 | Directly under cable, outside the playground |
| A2 | Market St. 30 ft from intersection (under cable) | 50.6 | Directly under cable, outside the playground |
| A3 | Market St. near second utility pole (under cable) | 111 | Directly under cable, outside the playground |
| A4 | Market St. by park hours sign (under cable) | 137 | Directly under cable, outside the playground |
| A5 | Market St. by stump (under cable) | 88.7 | Directly under cable, outside the playground |
| A6 | Market St. by children at play sign (under cable) | 113 | Directly under cable, outside the playground |

| Sample Number | Sample Location Description | Lead Concentration (ppm) | Notes |
|---|---|---|---|
| A7 | Market St. by pets must be leashed sign (under cable) | 410 | Directly under cable, outside the playground |
| A8 | Market St. by third utility pole (under cable) | 180 | Directly under cable, outside the playground |
| A9 | Market St. by fourth utility pole (under cable) | 161 | Directly under cable, outside the playground |
| A10 | Market St. past fourth utility pole (under cable) | 189 | Directly under cable, outside the playground |
| B1 | Playground-five feet in from Market St. and Dutchess Ter. intersection | 70.0 | Bare soil, within playground fence, 5 feet south of cable |
| B2 | Playground- five feet in from Market St. next to swings | 68.2 | Bare soil, within playground fence, 5 feet south of cable |
| B3 | Playground- five feet in from Market St. next to basketball court | 57.5 | Bare soil, within playground fence, 5 feet south of cable |
| B4 | Five feet in from Market St. in line with children at play sign | 185 | 5 feet south of cable |
| B5 | Five feet in from Market St. in line with third utility pole | 224 | 5 feet south of cable |
| B6 | Five feet in from Market St. in line with fourth utility pole | 248 | 5 feet south of cable |
| C1 | Playground- center between all three play structures | 59.0 | Bare soil, within playground fence, 10 feet south of cable |
| C2 | Playground- center towards basketball court | 72.0 | Bare soil, within playground fence, 10 feet south of cable |
| C3 | Ten feet in from Market St. in line with pets must be leashed sign | 109 | 10 feet south of cable |
| C4 | Ten feet in from Market St. between third and fourth utility pole | 283 | 10 feet south of cable |
| D1 | Playground- back towards wooded area | 81.7 | Bare soil, within playground fence |
| G1 | Across Market St. in front of playground | 62.4 | Background location |
| G2 | Behind Industrial Park sign (under cable) | 302 | Cable comes to ground level at this location |
| G3 | Center of soccer field | 199 | Within Temple Park but considered background location |

| Sample Number | Sample Location Description | Lead Concentration (ppm) | Notes |
|---|---|---|---|
| G4 | Wappinger Creek Park next to Highway Department | 101 | Background location |

**Figure 1: Location of Temple Park Playground and adjacent areas in Wappingers Falls, New York.**

**Figure 2: Location and results for 25 soil samples collected at the Temple Park Playground and adjacent areas in Wappingers Falls, New York.**

**Results, Conclusions, and Recommendations:**

Twenty-five soil samples were taken at Temple Park, lead soil levels ranged from 50.6 to 410 parts per million (ppm). Of those, twelve soil samples were taken from within Temple Park play areas (orange B1-B6, yellow C1-C4, blue D1, and green G3) that range from 58 to 283 ppm, which are all below the NYSDEC Restricted Residential Soil Cleanup Objective, applicable for active recreation, and HUD/EPA soil guidance value for children's play areas of 400 ppm (NYS Department of Environmental Conservation, 2006; USEPA, 2020). The G3 sample is from the soccer field and is considered a background sample due to its distance from any overhead cables. The six soil samples closest to the actual playscape on the map (orange B1-B3, yellow C1-C2 and blue D1) ranged from 58 to 82 ppm, again below 400 ppm. The ten soil samples directly under the cable (red A1-A10) ranged from 51 to 410 ppm; these samples are along the roadway and outside of play areas so therefore more appropriately compared to the HUD/EPA general soil guidance value of 1200 ppm (USEPA, 2020). The sample across Market Street (G2) located near the lead sheathed cable that comes down to ground level had a value of 302 ppm. While this sample may be influenced by lead from the cable it is also close to the road (a common source of lead) and therefore it is not possible to clearly identify the source. Background samples (green G1-G2) along Market Street across from the park and down by the Highway Department ranged from 62 to 101 ppm. Overall, there was not a clear gradation of elevated lead underneath the cable and decreasing away from this line (red to orange (5 feet from line) to yellow (10 feet from line), but the data are limited.

These results do not suggest a significant exposure potential or public health risk in children's play areas at Temple Park, therefore NYSDOH recommends that the park be reopened. The Village of Wappingers Falls should re-grass any spots of bare soil and continue to monitor the sufficiency of buffer materials (wood chips) and surficial grass at the playground in the future.

## References

NYS Department of Environmental Conservation (2006, December 14). Division of Environmental Remediation. 6 NYCRR 375-6.8 https://www.dec.ny.gov/docs/remediation_hudson_pdf/part375.pdf

U.S. Environmental Protection Agency (2020, August) Lead in Soil. https://www.epa.gov/sites/default/files/2020-10/documents/lead-in-soil-aug2020.pdf

U.S. Environmental Protection Agency (2023, June 5). https://www.epa.gov/superfund/lead-superfund-sites-human-health#environment

Pulliam, S., Ramachandran, S., West, J., Jones, C., & Gryta, T. (2023, July 9). America is wrapped in miles of toxic lead cables. *Wall Street Journal*.

Attachment 1: Photolog

Photo 1: Soccer field on Market Street

Photo 2: Park under cable line facing Dutchess Terrace

Photo 3: Flags under cable along Market Street facing Dutchess Terrace

Photo 4: Closer view of flags under cable along Market Street facing Dutchess Terrace

Photo 5: Looking down on set of three flags


Photo 6: Area around Children at Play sign

Photo 7: Flags under cable along Dutchess Terrace next to playground


Photo 8: Utility pole identifiers

Photo 9: Playground

Photo 10: Bare soil in playground area

Photo 11: Wood chip coverage under swings

Photo 12: Hanging cable covers along Dutchess Terrace

# EXHIBIT D

**For Immediate Release:** 8/1/2023 **GOVERNOR KATHY HOCHUL**

**GOVERNOR HOCHUL ANNOUNCES TEMPLE PARK WILL REOPEN AFTER COMPREHENSIVE SOIL TESTING REVEALS PARK IS SAFE FOR PUBLIC USE**

***Following Recent Reports, State Agencies Tested for Lead Levels in Park Soil and Found it Meets Federal and State Safety Standards***

***Departments of Health, Environmental Conservation, and Public Service Assess Additional Sites and Next Steps***

***State Continues Collecting Telecommunications Companies' Inventory Reports of Lead-Containing Cables***

Governor Kathy Hochul today announced that Temple Park in Wappingers Falls is safe to reopen after soil analysis shows lead levels meet state and federal safety standards for children's play areas. The park was temporarily closed out of an abundance of caution due to media reports that suggested there were elevated lead levels in the soil originating from old overhead lead-containing cables left by telecommunications companies. The State's scientific analysis found no evidence of elevated or widespread lead contamination in the area sampled. The multi-agency examination of the potential for lead-based telecommunication cables in New York State communities is ongoing.

"My administration will always take swift action to ensure our communities are safe with reports of potential public health threats," **Governor Hochul said.** "I am pleased to announce that we have confirmed Temple Park is safe for public use and we will continue our statewide investigation to ensure the continued health and safety of our communities."

In its final report, DOH's soil sampling investigation found no evidence of elevated or widespread lead contamination in the sampled area, and the results suggest there is no evidence of significant exposure or public health risk for those utilizing the park. DOH and DEC are coordinating with the U.S. Environmental Protection Agency (EPA) and have advised the Village of Wappingers Falls to reopen the park.

**New York State Health Commissioner Dr. James McDonald said**, "Thanks to the swift action of experts at the Department of Health, the Department of Environmental Conservation, and the Dutchess County Department of Behavioral and Community Health, we are pleased to report that Temple Park in Wappingers Falls is safe for public use. We are continuing our

review throughout the state to determine whether there are other areas for concern, and if so, will take immediate action to ensure the health of all New Yorkers is protected."

**New York State Department of Environmental Conservation Commissioner Basil Seggos said,** "In response to reports of historic lead cables at Temple Park, New York State agencies partnered with Dutchess County and the Village of Wappingers Falls to quickly advance a comprehensive sampling plan. The results of the State's sampling should give parents and Wappingers Falls residents peace of mind that park visitors are safe from lead exposure. DEC continues to work closely with the Departments of Health and Public Service, and local partners to fully assess potential risks from lead cables and take necessary actions to protect communities and the environment."

**New York State Department of Public Services CEO Rory M. Christian said,** "Public safety is a core mandate to the Commission and I am proud of the speed with which the state agencies and county partners conducted the requisite testing to meet that mandate and ease community concerns. We will continue to work with our partners to take necessary actions to protect communities and the environment."

Lead naturally occurs in soils, and typical lead soil levels range from 50 to 400 parts per million (ppm). In addition, lead can be found in paint in older homes, dust, air, water, soil, and in some products used in and around our homes. Lead-based paint in pre-1980 homes is the leading contributor to elevated blood lead levels in children. The acceptable limit for children's play areas, per EPA soil guidance levels, is set at a maximum of 400 ppm. All but one sample collected by DEC and DOH at Temple Park and nearby areas contained lead below this range. The sole exceedance, at 410 ppm, was located along the roadway and outside of play areas and does not present an exposure concern to children or the general public.

Twenty-five discrete soil samples were taken from and alongside Temple Park, which were then sent to New York State's world-renowned Wadsworth Center for flame atomic absorption spectrophotometry analysis using EPA method 7000B. Field efforts referenced in recent media reports utilized a field instrument, which is a hand-held tool called an XRF machine, to conduct an on-site screening for lead at the park. This tool is useful for screening purposes; however, results should be confirmed with more accurate laboratory analysis of soil samples. New York State requested and has not been provided any data or laboratory analysis performed as part of recent media reports.

On July 20, 2023, Governor Hochul announced New York State is reviewing additional locations of historic lead-containing cables for potential concern. DOH, DEC, and DPS ordered the State's 246 facilities-based telecommunication providers to compile an inventory of the presence of aerial and buried cables, both on land and below water, containing lead across New York. Within the next few weeks, telecommunications companies must provide a full inventory of lead-containing aerial and buried cable owned by the company for both cable still in use to provide service and cable that is no longer being used but has yet to be removed.

DOH, DEC, and DPS will use this information to evaluate the need for additional steps, including identifying any sensitive locations to prioritize for further investigation, and will keep communities informed as these efforts advance.

###